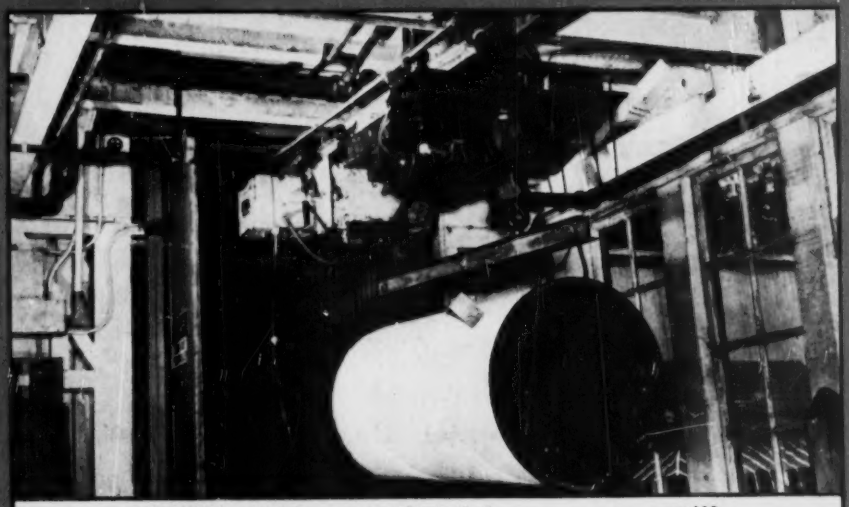
TEXTILE WORLD

A McGraw-Hill Publication ---------- JANUARY • 1949



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Vol. 99—No. 1
JANUARY, 1949

A McGraw-Hill Publication

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THE *Long-Range* VIEW

Study the Job First

There is a great need today to put emphasis on eliminating unnecessary elements or whole jobs that add to cost without contributing in return definite value above their cost. Very few mills can afford to pay for whims or for operations based on false assumptions. The pressure is on to reduce textile prices. The only way to keep up profits at reduced prices is to cut costs.

Everyone responsible for operating a mill knows that if he had time to study the details of his operations closely he would find elements that could be changed or eliminated to reduce manufacturing costs.

All too often there does not seem to be enough time to study thoroughly the operations involved in textile production. Perhaps, also, there is reluctance based on resistance to change or on the knowledge that new problems needing to be solved will be uncovered. One thing is sure, detailed study of any textile operation will result in possibilities to improve it. The first question that should be asked when a job is studied is, "Can it be eliminated in its entirety?"

The effect of its elimination might be less costly than the cost of having the operation performed. For example, a mill was gaging the diameter of all bobbins being put into a warper creel to reduce the number of bobbins that would run out during the filling of a beam. A great many bobbins always did run out, regardless. It was found that over half the bobbins received in the warping department would have to be rejected if run-outs were to be eliminated. The beamers were trying to get more yardage from the spools than the average spool contained. Of course, reducing the yardage on the beam eliminated the need for the gaging operations. Creelers could, upon visual inspection while creeling, reject obviously small bobbins at a lower cost than that for gaging; and cost of rehandling the bobbins was reduced to a fraction.

The foregoing example emphasizes another question that should be raised: namely, "Are the assumptions correct?" It was assumed, originally, that gaging would eliminate, or minimize, run-outs. Actually, there just wasn't enough yarn on the bobbins in the first place.

Too often, a conclusion is based on false assumptions. One erroneous conclusion frequently made in textile mills is that an operator can assume a new duty "along with his regular work." Many times he can—if he doesn't already have a full job or if he is doing unnecessary work that can be eliminated.

Whenever it is alleged that an operator can assume a new duty "along with his regular work," check to be certain that there is a real need for the additional assignment. In other words, maybe it can be eliminated before it is added! If the new duty is actually needed, then first study the operator's job before it is added.

As was said on this page in July, 1947, a job study cannot be a one-time proposition but must be continuous and should result in a written record of what comprises a job and what should be the times required to perform its various elements. In addition to studying an operation itself, the operation should be correlated with what goes on before and after.

Sometimes an operation performed in one department must be undone in another. For example, a mill cloth room sewed similar fabrics together to form a large roll for faster handling and for examining in the cloth room. Then all pieces were taken apart, and the separate pieces were folded before going to the mill's finishing department. Before finishing, the pieces were again sewn together. It was obvious that by correlating the mill's cloth room and the finishing department, much unnecessary work could be eliminated.

There are many ways to cut costs. Some involve installation of new machines or equipment. This month in Philadelphia a show is being devoted to one type of equipment that has been doing much to save money for textile mills—the Third National Materials Handling Show, Jan. 10 to 14. In the pages of this issue are described a variety of ways in which mills have used materials-handling equipment to reduce costs.

There is, of course, no one answer to the problem of reducing costs; for each mill, details are bound to be different. A good way to start out is to eliminate unnecessary or wasteful elements in the production line. If you haven't recently made a detailed study of your operations, you can be sure that some of these elements do exist.

C. H. Bendigo

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Think it over ... Let's talk it over

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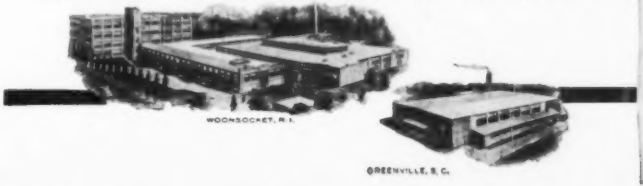

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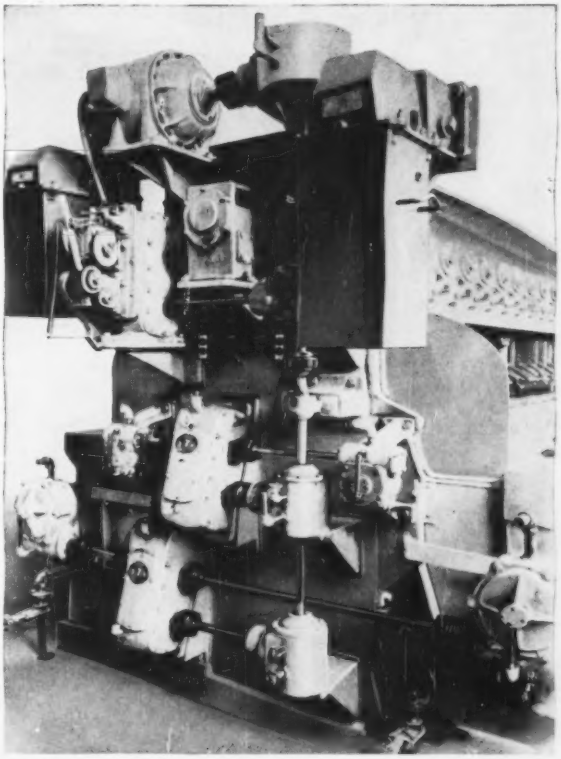
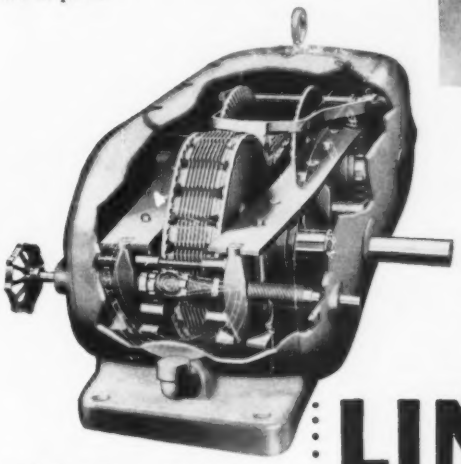
Dependability is imperative, for Butterworth machines are in operation all over the world. Link-Belt P.I.V. Gears —wherever they operate—assure steady, reliable service, as well as accurate speed and uniformity. "P.I.V. Gears are truly positive, infinitely variable," Butterworth engineers report. "They must be to give all the controls we require."



ABOVE—Three Link-Belt P.I.V. Gear variable speed changers and six Link-Belt type "RC" roller chain flexible couplings enclosed in type "R" revolving casings.



LEFT—Link-Belt P.I.V. Gear speed changer provides simple, quick and precise speed control. There's no chance for slippage and power waste. Speed changes are made while drive is in operation—infinitely variable —without steps.

11.349

LINK-BELT COMPANY
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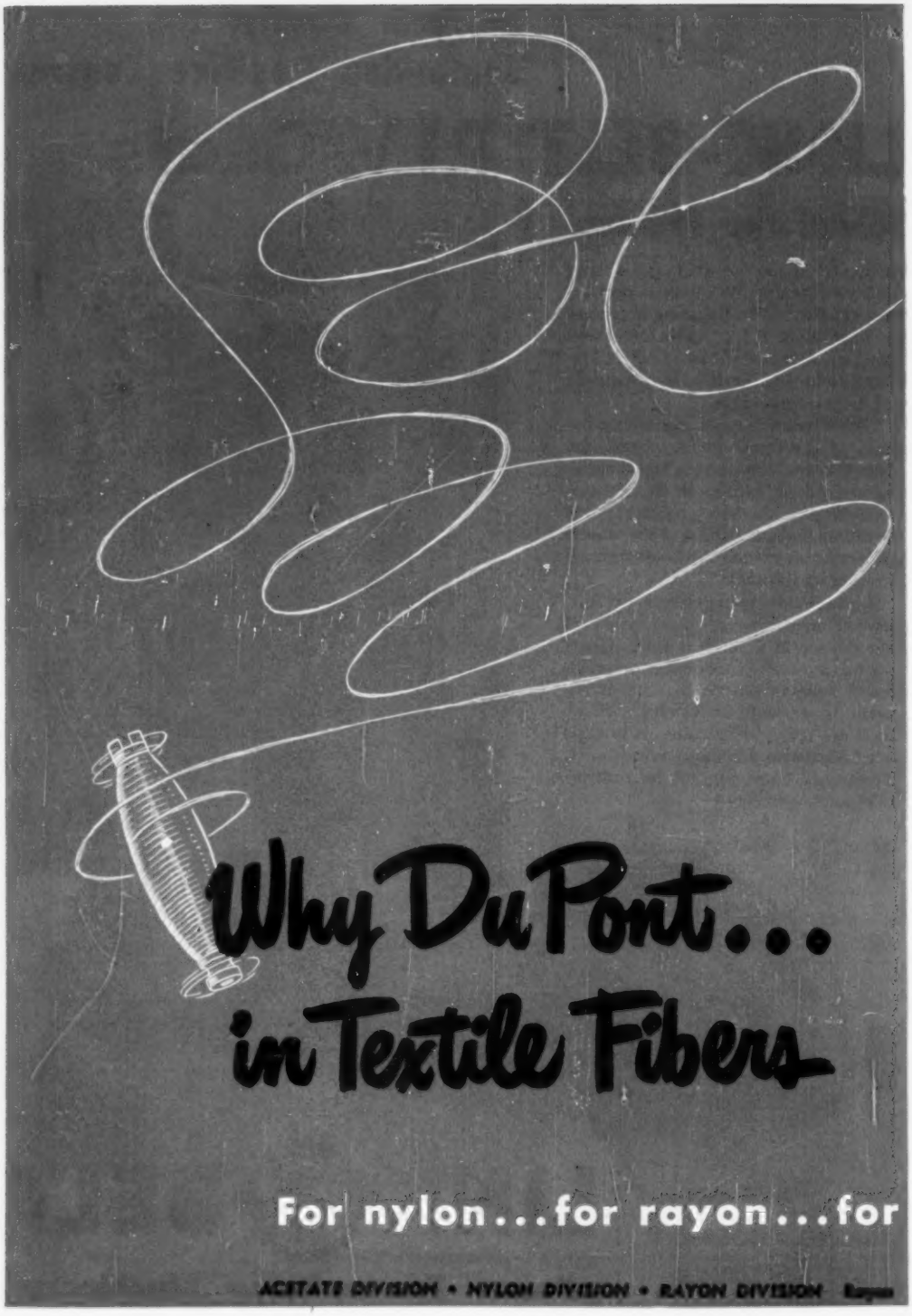
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For nylon...for rayon...for
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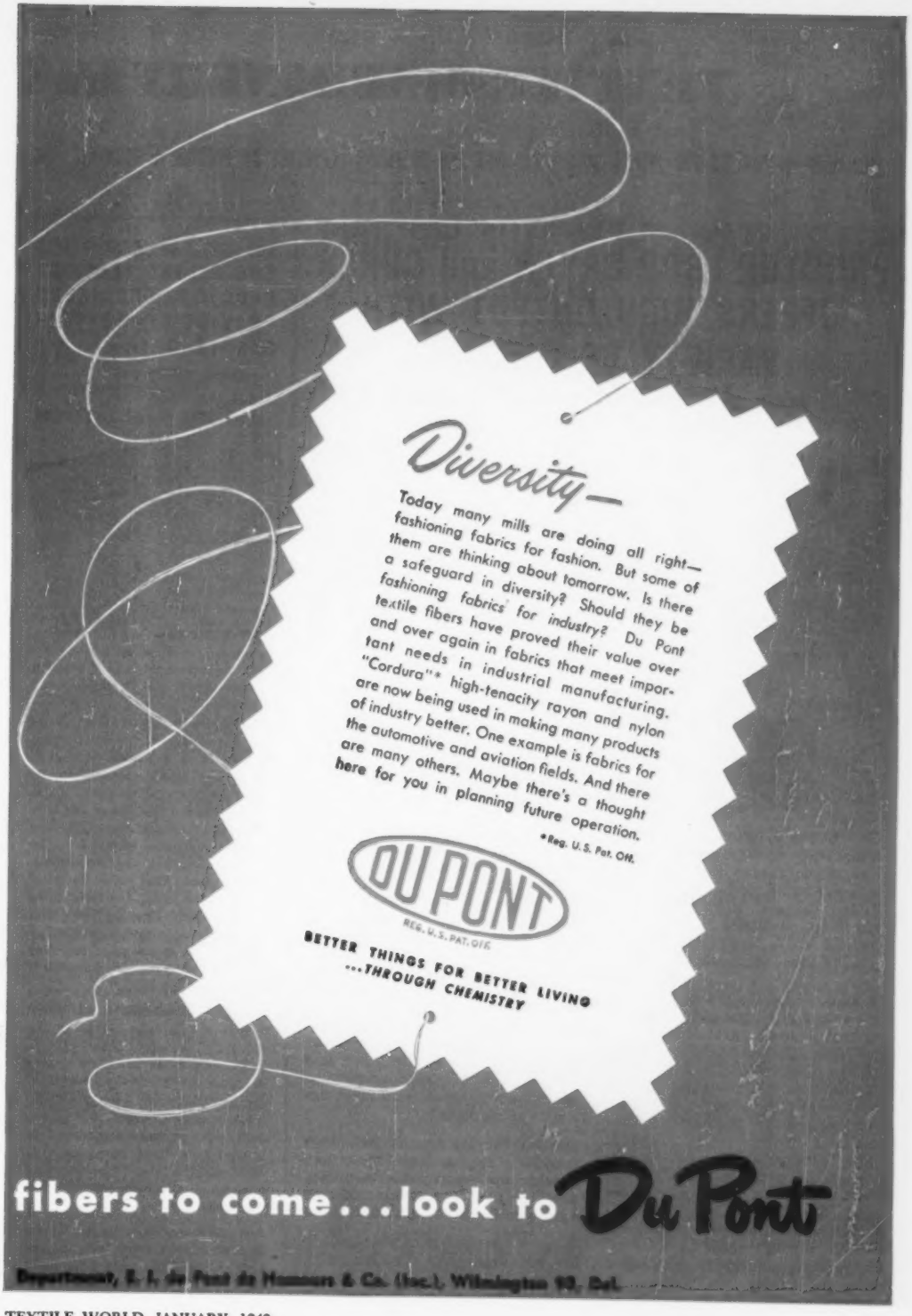
Diversity—
Today many mills are doing all right—fashioning fabrics for fashion. But some of them are thinking about tomorrow. Is there a safeguard in diversity? Should they be fashioning fabrics for industry? Du Pont textile fibers have proved their value over and over again in fabrics that meet important needs in industrial manufacturing. "Cordura"* high-tenacity rayon and nylon are now being used in making many products of industry better. One example is fabrics for the automotive and aviation fields. And there are many others. Maybe there's a thought here for you in planning future operation.
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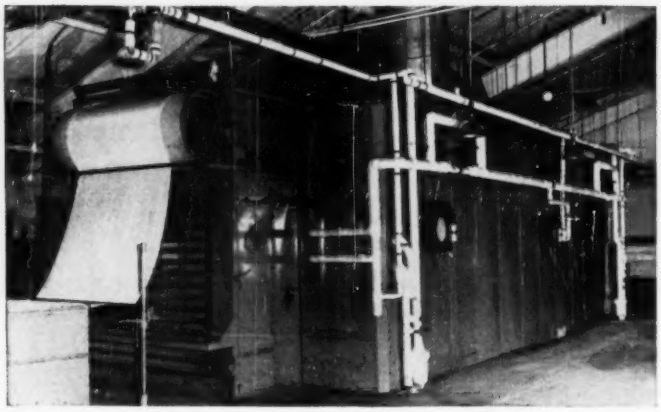
TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• JANUARY • 1949 •

PROCTOR LOOP DRYER and CURER OFFERS HIGH OUTPUT WITH VARIETY OF FABRICS

MAXIMUM RESULTS WHEN DESIGNED and USED FOR SPECIFIC PURPOSE



One of the most versatile drying machines ever developed by Proctor engineers for the textile industry is the modern loop dryer. This rugged, high capacity machine combines large scale output with dependably high quality finished results.

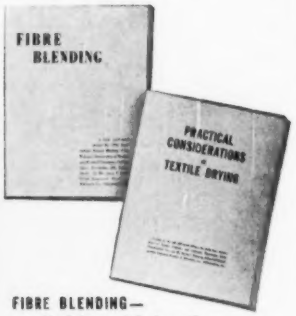
Recent studies in the field, when many of the Proctor loop dryers in operation were carefully checked for performance, proved that conclusively—despite the versatility of the loop dryer—maximum results are guaranteed only when the loop dryer is used for the class of goods for which it was designed. That makes sense—for certain classes of goods require different adjustments in the operation—and when the material is dried without benefit of these adjustments—final results cannot be assured. Some manufacturers have installed loop dryers for one purpose or class of goods and then attempted to handle another class of goods, without making any adjustments in the operation. Many times results have been excellent, because of the very versatility of the machine. However, the manufacturer is running a risk when he attempts to dry finished goods in a dryer designed for washed dyehouse goods. When considering a loop dryer it is better to consider the most difficult class of goods that it is expected to handle and design the machine to meet those rigid requirements. Then if a less refined class of goods is dried the machine will more than meet the needs of the fabric.

Among fabrics ideally suited to handling in the loop dryer are washed dyehouse goods, toweling, tubular knit cotton goods and certain classes of finished materials.

A clear conception of the goods to be handled helps Proctor engineers recommend to the textile mill a loop dryer designed to assure maximum efficiency.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

TWO RECENT TALKS BY PROCTOR ENGINEERS PROVIDE UP-TO-THE-MINUTE DATA



FIBRE BLENDING—a talk delivered before the 65th Anniversary Annual Meeting of the National Woolen and Worsted Overseers—Carders Guild, in Boston, Mass.—by John P. Kolb, Sales Engineer, Textile Machinery Division of Proctor & Schwartz. This talk, which has been reproduced in the form of a twelve page booklet, gives a comprehensive picture of fibre blending. It outlines types of blending systems used; gives detailed discussion of component equipment; discusses possibilities and limits of various systems. It is an informative guide for the newcomers to the field—and a thought provoking refresher for experienced mill men, who may already be acquainted with some of the material discussed.

PRACTICAL CONSIDERATIONS IN TEXTILE DRYING—a talk delivered before the A.A.T.C.C. in Philadelphia, by Myron T. Fleming, Sales and Development Engineer for the Dryer Division of Proctor & Schwartz. Always a stimulating source of knowledge, Mr. Fleming's previous talks reproduced in booklet form have been much in demand. This latest discussion contains informative data—clearly, concisely presented.

Any mill man who writes is welcome to one or more copies of either or both of these talks—which represent the latest thinking in the respective fields covered by these two engineers.

DRYING EQUIPMENT *News*

LATE PROCTOR BULLETINS FOR YOUR REFERENCE FILE

Several new bulletins have been issued by Proctor & Schwartz Inc. during the past few months. Because there has been considerable interest in this literature on the part of all who have seen it—we list five of these for your interest.

PROCTOR-LEONARD ROCAR

A six page bulletin describing the modern wool opener which has created much interest in the trade. Describes the principle of operation and gives some operating data. Bulletin #329.

PROCTOR Super Type SINGLE CONVEYOR DRYER

A six page bulletin which describes completely the versatile, well known and well established single conveyor dryer. This bulletin will make an interesting addition to your information file. Bulletin #332.

PROCTOR MACHINERY FOR THE TEXTILE INDUSTRY

An eight page bulletin which highlights the most recent developments in preparatory equipment, blending systems, automatic feeds, carding equipment, waste machinery and batt making equipment. Bulletin #331.

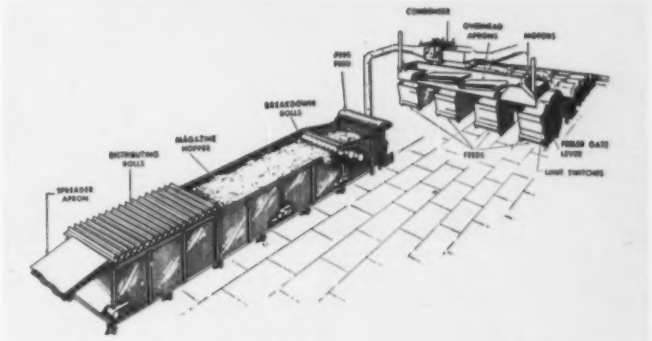
PROCTOR DRYING EQUIPMENT FOR THE TEXTILE INDUSTRY

A twelve page bulletin devoted to new developments in Proctor drying equipment—as well as brief descriptions of well established types of drying machines and systems. Bulletin #330.

PROCTOR HOSIERY BOARDING EQUIPMENT CATALOG

24 pages devoted to a detailed description of Proctor automatic boarding equipment for men's, women's and children's hosiery. Bulletin #326.

PROCTOR AUTOMATIC SYSTEMS FOR STOCK CONVEYING MAKE POSSIBLE LARGE SAVINGS

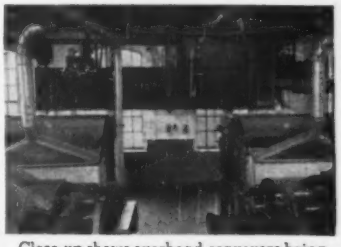


One possible combination of equipment where conveyors are used to feed card hoppers similar to one now being installed in a new Southern woolen mill.

During the past several months Proctor engineers have designed several systems for automatically conveying stock. These systems have been variations of the basic principle outlined in these columns early last year. Looking back on the operation of these systems has always revealed one outstanding advantage—large savings have been made possible in every case. These automatic systems which deliver stock where it is required, when it is needed and in the quantity desired—have reduced labor requirements to an absolute minimum. In addition all of the guesswork and expense involved in hand feeding have been eliminated.

Briefly—here is the principle of the system. Stock, which may have been put through a variety of preliminary blending operations, is conveyed by an overhead system to a spot above either card hoppers or storage bins. If it is feeding to card hoppers, the system may be tied in with electrical controls on the feeds in such a way that when all of the hoppers are filled, the system ceases to operate. It also shuts off the preliminary equipment to prevent any overrun of material. As soon as any hopper requires more stock, the system automatically resumes operation.

There are many other variations of this basic system in operation in woolen, worsted, carpet yarn and asbestos plants. The basic idea is applied and individual arrangement of equipment is "job engineered" to meet the needs of the mill — and to assure substantial savings. Write for details.



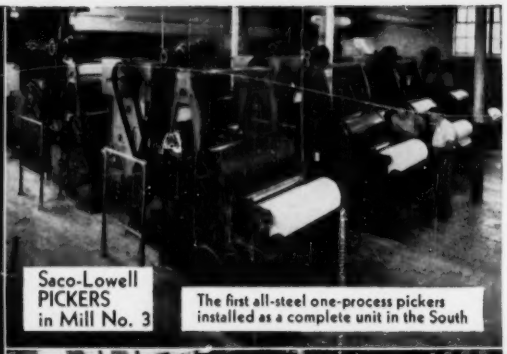
Close up shows overhead conveyors being used to feed two hoppers.

Proctor & Schwartz Inc. • 710 Tabor Road • *Philadelphia 20, Pa.*

CHINA GROVE MILL NO. 3

Demand for China Grove high quality thread yarns is being met by Saco-Lowell equipment in their new Mill No. 3, now in production.

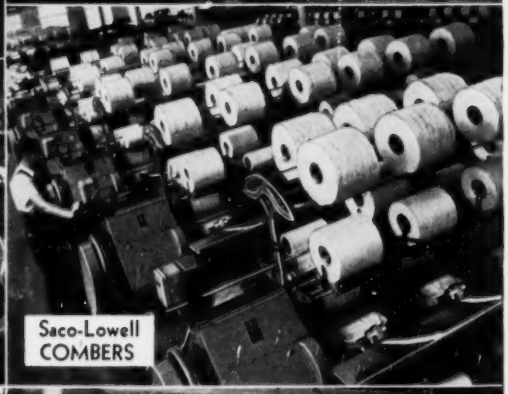
Saco-Lowell equipped, from picking through twisting, this mill will soon be setting a new standard for quality, economy and production.



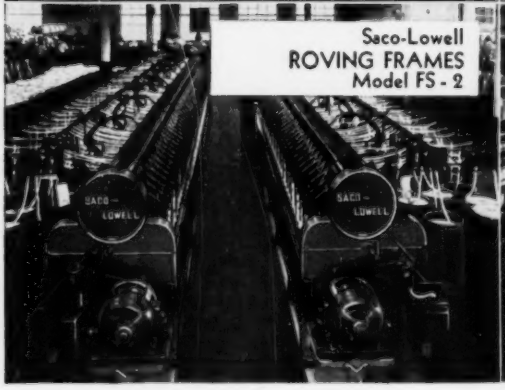
Saco-Lowell PICKERS in Mill No. 3

The first all-steel one-process pickers installed as a complete unit in the South

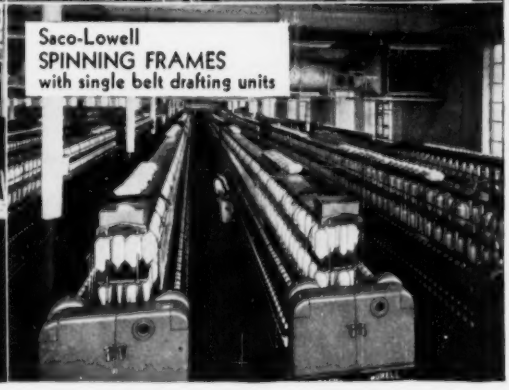
Saco-Lowell CARDS



Saco-Lowell COMBERS



Saco-Lowell ROVING FRAMES Model FS - 2



Saco-Lowell SPINNING FRAMES with single belt drafting units

INTERIOR VIEWS OF CHINA GROVE MILL NO. 3

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60 BATTERYMARCH STREET, BOSTON 10, MASS.

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40% active organic content

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WASHES • WETS • DISPERSES • FOAMS • EMULSIFIES IN HOT OR COLD SOLUTIONS AT ANY pH

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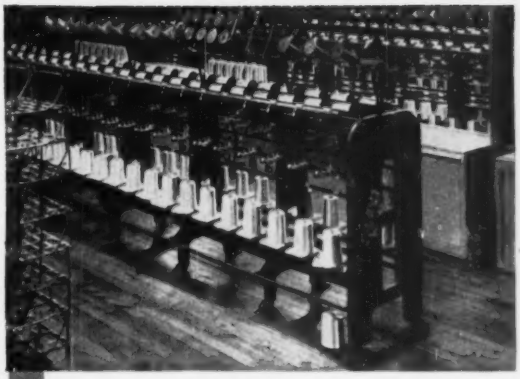
At Verney Mills

The TWISTERS are ALL ATWOOD

Rayon Fabric at Verney

Consistently successful performance at the Verney Corp. mill in Brunswick, Maine, has led to the installation of more and more Atwood twisting machines.

This mill is *completely equipped* with Atwood – redraws, up-twisters and ring twisters.



Rayon yarn being rewound from cones on Atwood Model 200 Redraws which produce spools of proper density and wind at high speed. The simplicity of construction and streamlined design make cleaning easy.

High-twist crepes are produced on Atwood Utility Up-Twisters. Spindle swing units are rigid, resulting in improved quality of work due to uniformity of twist and also in longer service life.

Up-twisting crepe yarn for Sheers on Atwood Model 110 Up-Twisters. Pre-spaced longitudinal spindle rail reduces erection time and gives the frame rigidity. Twist unit and gear-driven oil pump are totally enclosed. Unique bobbin hangers insure accurately positioned takeup.

Atwood Model 10 Ring Twisters producing combination yarns for men's suitings. The neat housing encloses motor, motor carriage, and a belt takeup assembly which keeps spindle drive uniform by automatically compensating for belt stretch. Automatic stop motion for each end and ply.

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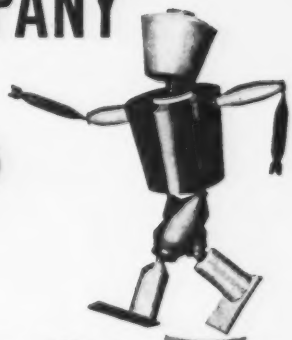

UNIVERSAL *with its Atwood division, builds a complete line of* **THROWING MACHINERY**

Winding and Twisting Machinery for Natural and Synthetic Yarns

KOHORN

Latin America's Largest

Filament Rayon and Staple Fiber Plant *Starts Production*

Long a producer of rayon, Companhia Nitro Quimica Brasileira of Sao Paulo, Brazil, now possesses one of the world's largest and most modern rayon plants. The new plant was designed and built by KOHORN. It is equipped with KOHORN machinery and employs special KOHORN chemical processes. Now under KOHORN technical management the plant is producing superior viscose rayon that will soon replace the old product.

The mammoth size of this KOHORN project can be seen by the fact that the main building in the foreground of the illustration covers more than seven acres. KOHORN's world-wide experience lessened difficulties wrought by the sub-tropical climate and rainy seasons.

This great project is one of many KOHORN has built in a record unequalled in the establishment of complete rayon plants and the building of rayon machinery. To you who are now planning to become rayon manufacturers, an all-inclusive contract with us, *in which we assume complete responsibility for the entire project*, is assurance of success for your plans.

COMPLETE PLANTS for Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months

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SANDOZ PRESENTS
the color achievement of the month

Color Adventure

...by American Woolen Co.

The famous artist, Ben Stahl, has reproduced, in this painting, one of a new group of basque suits tailored by Rosenblum from coverts and gabardines woven by American Woolen Co.

When mills like American Woolen Co. — just one of many known to everyone — use Sandoz colors for their dyeing, they are confident of obtaining not only the eye appeal desired by the designer but also the long color life demanded by the customer.

For the best possible fastness to light in shades such as the dusty rose of Rosenblum's suit, Sandoz recommends its latest development:

METOMEGA CHROME BORDEAUX 2 BL

The mill benefits further from its superlative fastness to mill treatments. And the level dyeing that is characteristic of the Metomega Colors will be welcomed by the dyer who has to make shades like this one on "tippy" new stock.

Have you seen our new movie on Metachrome dyeing — the method that reduces boiling time by as much as 50%, compared with top chrome dyeing? Write us for date of next showing near you.

And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

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SANDOZ *thinks ahead with textiles*

The Mill is

Riverside Worsted Co., Inc.

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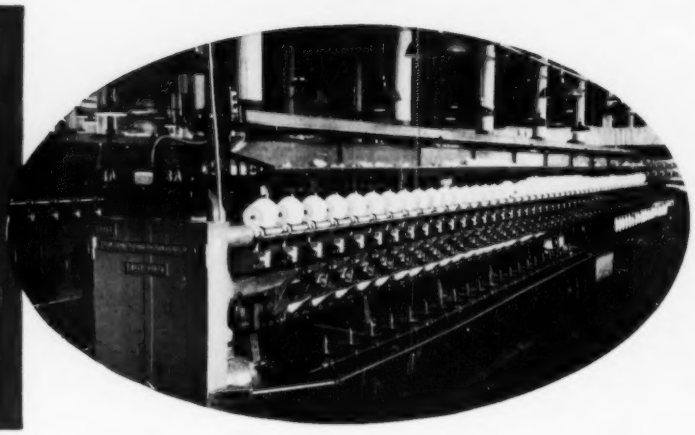

More Roto-Coners* with the ***all-metal*** rotary traverse are being installed in woolen and worsted mills than any other type of winder. High speed, low maintenance, and uniformly excellent quality of packages make Roto-Coners* the logical choice for production of cones and tubes of cotton, wool, worsted and spun rayon.

It's the rotary traverse that makes the big difference—permits higher speed (there are no cams to restrict traverse and yarn speed), reduces maintenance (simplified design, easy cleaning, splash system of oiling), improves package quality (roll-cuts eliminated, all packages uniform). Other features include quietness of operation, humidity-proof, and various types of tensions and slub catchers, used for different yarns and packages, which contribute further to the satisfaction of the knitters, weavers and dyers who use the product of the machine.

The Machines are

Roto-Coner*

drum winders

with the **exclusive**

Rotary Traverse

*®

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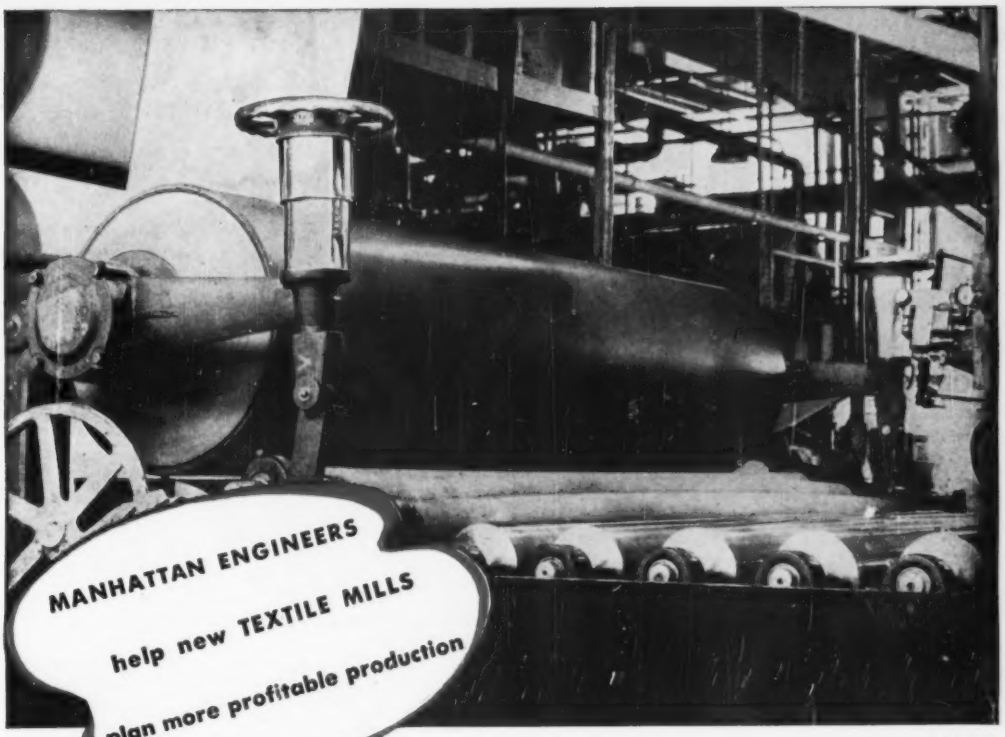
Winding and Twisting Machinery for Natural and Synthetic Yarns

ROTO-CONER* *the only machine with the rotary traverse*



. . . with Rubber Covered Rolls; Rubber Lined Tanks

Shown above is one of the new installations of CONDOR Rubber Covered Rolls in a modern southern bleachery. When new textile plants are built Manhattan Engineers work closely with the planners who are responsible for the most efficient production set-up that up-to-the-minute technology can devise. Manhattan men have been expert rubber technicians to the textile industry for over 50 years.

That is why CONDOR RUBBER COVERED ROLLS always "deliver the goods" for years of trouble-free service. They do not oxidize, surface harden, crack or change density. You are assured of uniform, uninterrupted production . . . for batcher, scutcher, slasher, padder, mercerizing range, and other textile equipment.

At right is a photograph of a typical, large, intricate MANHATTAN RUBBER LINED TANK for a rayon plant. On any equipment, larger or smaller than this giant evaporator, textile mill men rely on the counsel and service of the Manhattan Man.

. . . Call him for any problem in rubber, and "Keep Ahead with Manhattan."

(Manhattan also manufactures Condor Transmission and Cone Belts, Condor V-Belts, and Condor Hose.)

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MECHANICAL RUBBER PRODUCTS — RUBBER COVERED EQUIPMENT — FRICTION MATERIAL — ASBESTOS TEXTILES
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Get Floors
Really Clean . . . Faster . . .

TEAM UP Your Scrubber with a Cleanser that's *MADE* for It!

The greater speed of mechanical scrubbing requires the use of a cleanser that keeps pace with the speed of the machine. Cleansers designed for hand-scrubbing cannot be expected to give the fast cleaning action required for machine-scrubbing. In an attempt to get floors thoroughly clean, the operator of a scrubbing machine using a slow-acting cleanser may resort to prolonged brush action, but that needlessly piles up mileage on the machine, increases labor costs, and prematurely wears out the brushes.

To utilize the full cleaning capacity of your scrubbing machine—to get floors *film-free clean* in minimum time—choose a cleanser that's specially made for machine-scrubbing. *All Finnell Cleansers are.* And there's a type for every need, including *Setol,* the mineral oil solvent for cleaning oily wood floors, and *Finola, the Original Scouring Powder,* for heavy duty scrubbing of smooth, hard-surface floors.

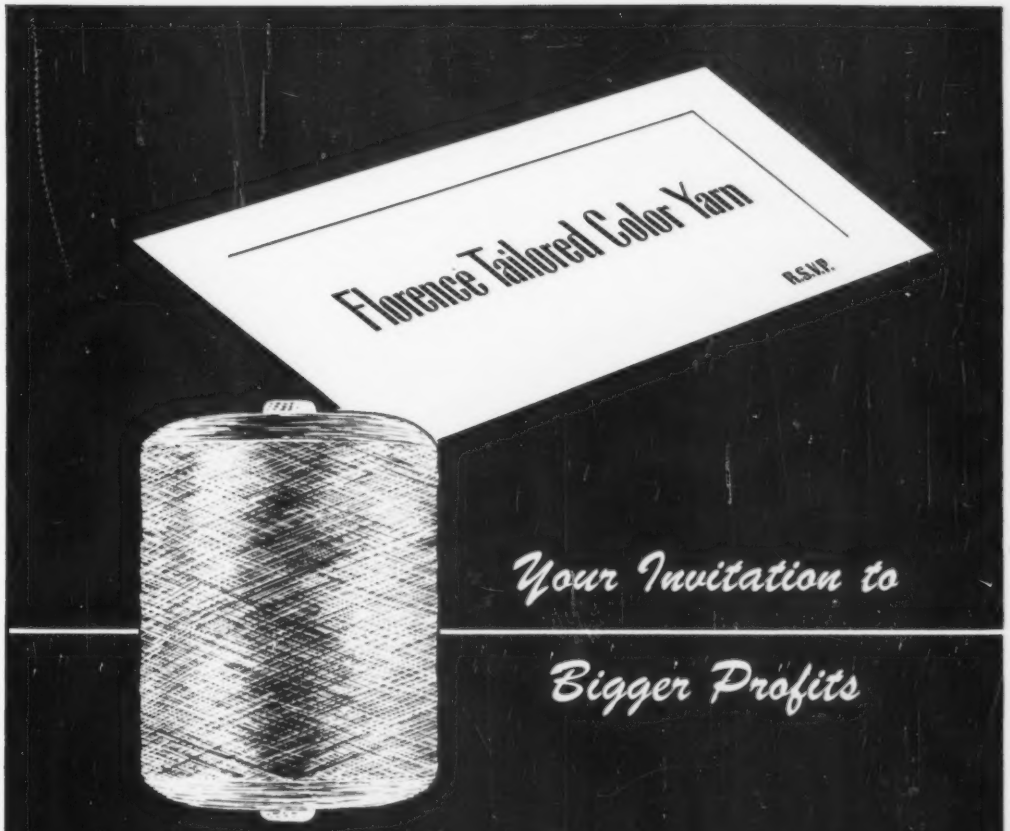
The *Finnell Machine* illustrated above is a *Self-Propelled Scrubber-Vacuum* designed for use on large-area floors. This *Finnell* applies the cleanser, scrubs, rinses if required, and picks up. Cleans up to 8,750 sq. ft. per hour!

The *nearby Finnell man* is readily available to help train your maintenance operators in the proper use of *Finnell Equipment* and *Supplies.* For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1901 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

Everything FINNELL for Floor Care

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES



Your Invitation to

Bigger Profits

You are cordially invited to make bigger profits!

A better product means bigger profits, and by using *Florence Tailored Color* you can improve your products.

Florence Tailored Color is our exclusive dyeing and processing of cotton, wool, synthetic or blended yarns by special laboratory and technical methods, giving you the exact *color* you specify, the exact *fastness* you specify, and the *quality* you require. *Florence* alone gives you *Tailored Color.* The yarn is either supplied by you or obtained by us.

This is an invitation worth accepting. R. S. V. P.

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Package Dyers and Processors of Cotton, Wool, Synthetic and Blended Yarns

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As we face the New Year
let us raise our devotion to
high ideals and set them higher

HOWARD BROS. MFG. CO. WORCESTER 8, MASS.

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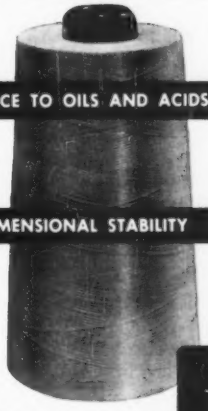
FIBERGLAS* YARNS WON'T BURN

RESISTANCE TO MILDEW AND ROT

HIGH TENSILE STRENGTH

EXCELLENT ELECTRICAL PROPERTIES



RESISTANCE TO OILS AND ACIDS

DIMENSIONAL STABILITY

Textile designers and manufacturers use Fiberglas Yarns to produce fabrics that *won't burn*—fabrics that are *permanently* non-combustible. With today's emphasis on fire-safety, this characteristic of Fiberglas Yarns is tremendously important.

Plus high tensile strength—dimensional stability—resistance to oils and most acids—resistance to mildew and rot—and electrically non-conductive.

When you have a fabric problem that calls for any or all of these important properties, specify Fiberglas Yarns. For full information, ask Owens-Corning Fiberglas Corp., Textile Division, 16 E. 56th St., New York 22, N. Y.

SPECIAL LABORATORY SERVICE: To cooperate with the technicians in your laboratory, Fiberglas maintains a Customer Service Laboratory and staff. They are at your disposal on a strictly confidential basis.

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*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

Winding Fine Deniers of Rayon Crepe in a New England Mill.

The Original Automatic
FILLING WINDER

The improved design winds

COTTON, RAYON and WOOL YARNS

with Automatic Bunch Builder attachment and at high speeds.

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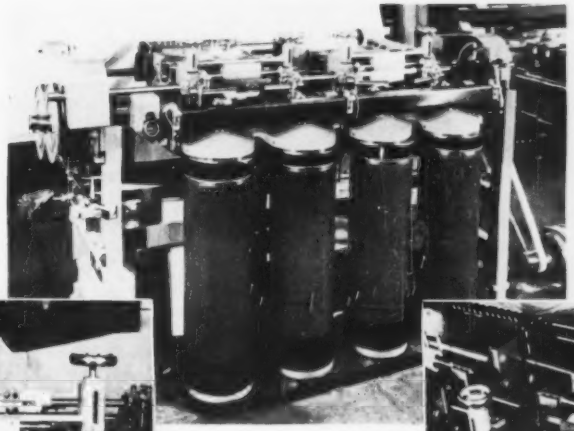
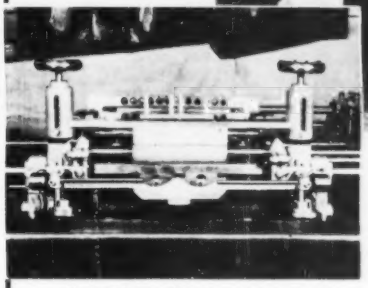
Holdsworth Gill Screw Co., Inc.

Announces the NEW Holdsworth High Draft High Speed Gill Reducer

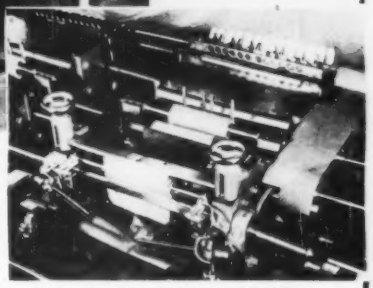
(Patented)



Double Head Machine with 4 can delivery.



Front View showing closeup of delivery end.



Overhead View showing the featured high drafting rolls.

Developed expressly for the abbreviated system of manufacturing worsted yarn.

Built with double head for 4 ball or can deliveries and single head with double ball delivery.

Exclusive Sales Agents

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worsted textile machinery

● GROUP OF NOBLE COMBS

Modern Machinery gives highest efficiency

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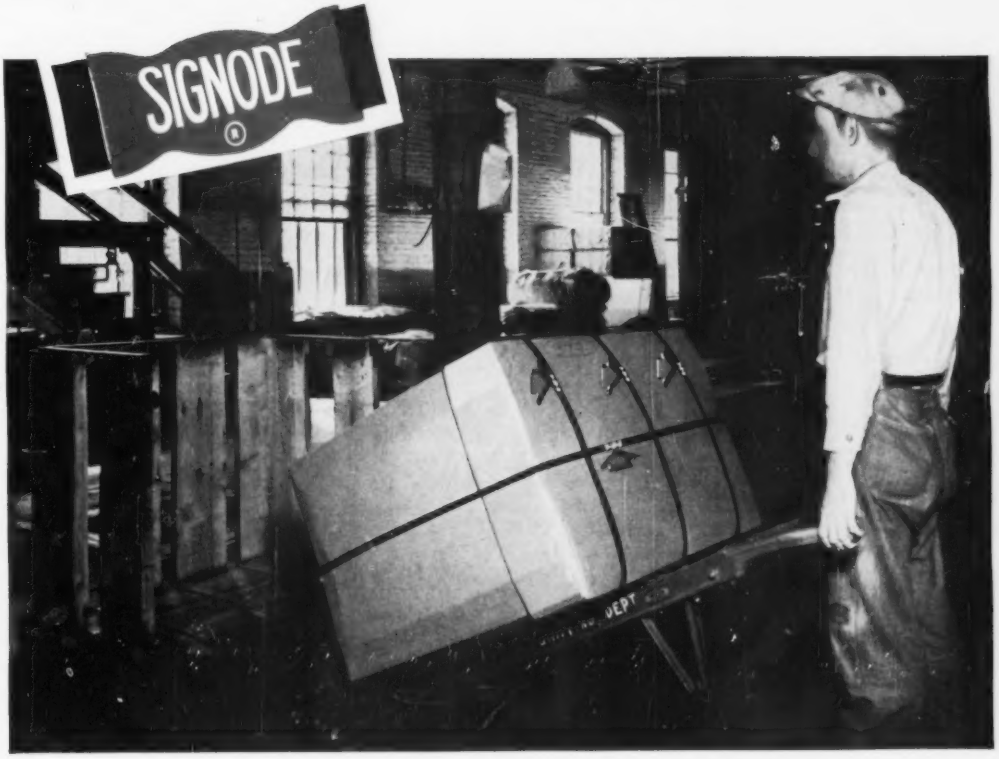


An idea for textile shippers ...by men who save more than they sell!

The steel straps that bind this carton of wool combing insure a space-saving, compact package that's easy to handle and store, safe to ship.

But the feature of this strapping application that's particularly noteworthy is the Signode* Special Lithographed Seals that have been used. Besides doing their regular job of securing the steel straps, these seals practically eliminate the danger of pilferage or substitution. Because they bear the manufacturer's name, they can't be replaced.

The field-trained Signode representatives who are helping to introduce this exclusive Signode development to all branches of industry are rapidly earning the reputation of "men who save more than they sell." For, with ideas such as this, and with Signode's* System of Planned Protection, they are able to point the way to improved methods in nearly every plant they visit. The savings that result regularly exceed the cost of any new materials or tools recommended.

If you would like to know how you, too, may benefit, write today.

SIGNODE STEEL STRAPPING COMPANY
2642 N. Western Avenue • Chicago 47, Illinois

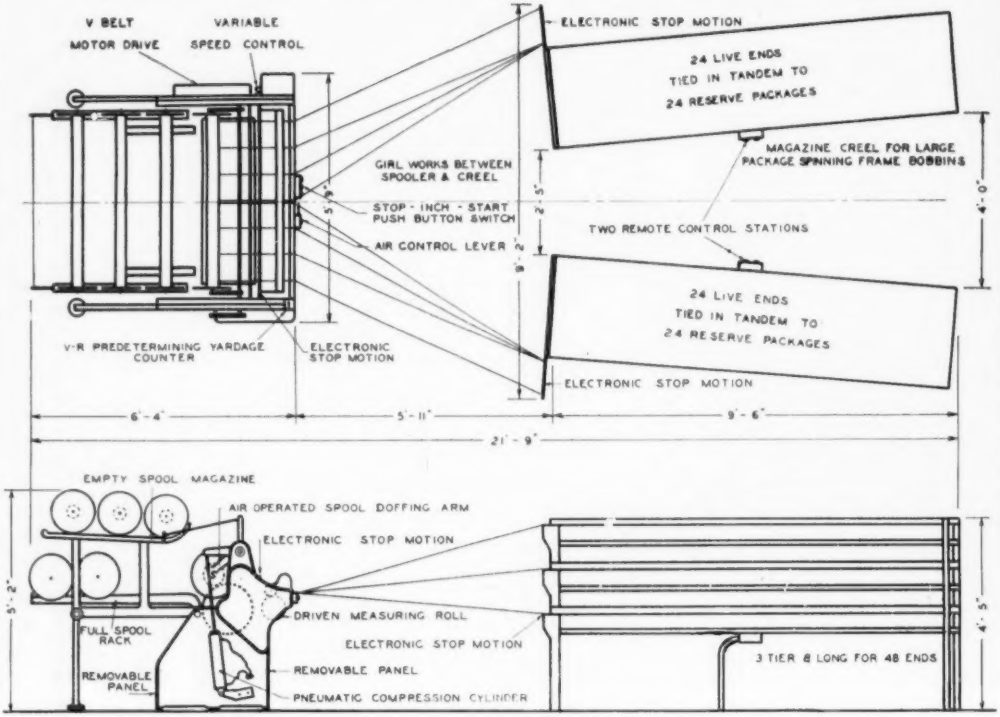
THE SIGNODE SYSTEM OF PLANNED PROTECTION

1. A thorough study of your shipping practices to determine where Signode Steel Strapping Methods can benefit.
2. A complete interchange of ideas and information with your plant personnel to insure the success of any new method introduced.
3. Recommendation of the strapping, tools and accessory equipment best suited to your needs; and a determination of whether or not the services of Signode's packaging laboratory are required.
4. Careful instruction of operators in proper use of strapping and tools.
5. Periodic recheck of methods introduced, with your personnel as well as with carriers and receivers as required.
6. Fast tool repair and replacement, regular personal contacts and a bulletin service that keeps you abreast of latest developments in packaging and shipping.

*Reg. U. S. Pat. Off.

STEEL STRAPPING PROTECTS YOUR SHIPMENTS AGAINST DAMAGE

Here's How TO CUT *your* SPOOLING COSTS



The New ELECTRO-PNEUMATIC Warp Spooler MODEL "60"

Seldom are there any radical developments in an industry as old as the woolen industry. Gains of 10 or 20% in any given process are usually hailed with much enthusiasm. Progress is steady, but slow.

Davis & Furber's new Electro-Pneumatic Warp Spooler, Model "60", offers you gains from 150% to 300% in spool production at a substantial reduction in your spooling costs. Model "60" will start a new era in warp spooling because we believe that it renders all present spoolers obsolete.

It will pay you to investigate.

Write for details.

Davis & Furber Machine Co.

NORTH ANDOVER, MASS.

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FOR 1949

PUT THE PLUS IN YOUR PROCESS!*

by Standardizing on

HEYDEN CHEMICALS

IMPORTANT TO TEXTILE PROCESSING

FORMALDEHYDE

Formaldehyde Solution U.S.P. A clear, colorless liquid of the highest purity. For water repellents, glazes, resins, anti-mildew agents. For crease-proofing and crush-proofing. Shipped in tank cars, drums, carboys, bottles, tank trucks (N.Y. metropolitan area only).

CHLORINATED AROMATICS

Available in a wide variety of compounds for use as solvents and intermediates in dye manufacture.

FORMIC ACID

For dyeing of acid colors; wool treatment for moth-proofing; emulsions for impregnating fabrics; as a sour to prevent yellowing; acid wash after sulfur coloring and dyeing. Shipped in 125 lb. carboys.

HEXAMETHYLENETETRAMINE

U.S.P. and Technical Grades. For the preparation of water repellents; production of fast prints on textiles. Shipped in 200 lb. bbls.; 100, 50 and 25 lb. fiber drums.

***THE PLUS IN YOUR PROCESS**

- . . . Constant source of supply.
- . . . Production control through uniformity.
- . . . Exacting specifications . . . assured quality.
- . . . Extensive facilities of 5 modern plants.

Technical literature, samples and prices forwarded promptly upon request on company letterhead.

Serving Industry through Finer Chemicals

HEYDEN CHEMICAL CORPORATION

393 SEVENTH AVENUE NEW YORK 1, N. Y.

CHICAGO 6: 20 North Wacker Drive • PHILADELPHIA 3: 1700 Walnut Street

SAN FRANCISCO 11: 420 Market Street

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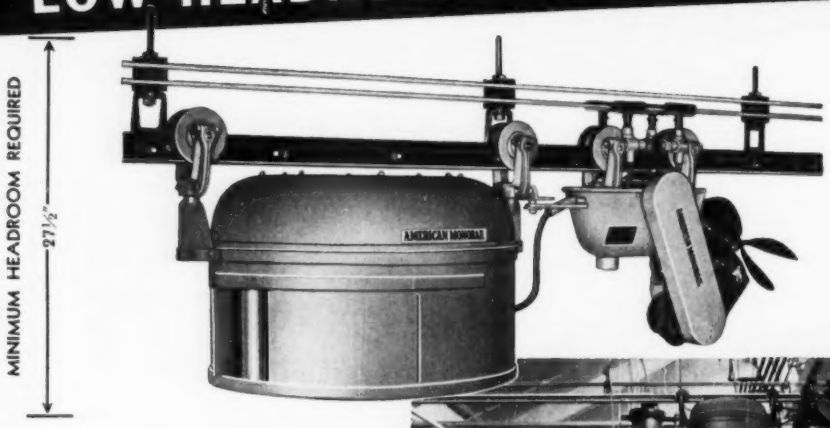
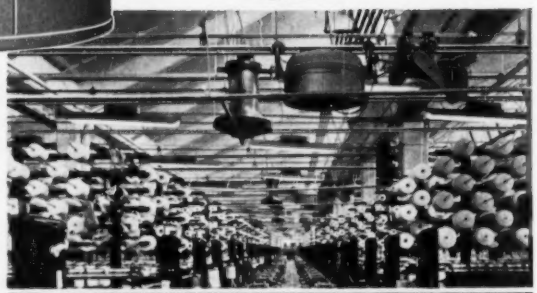
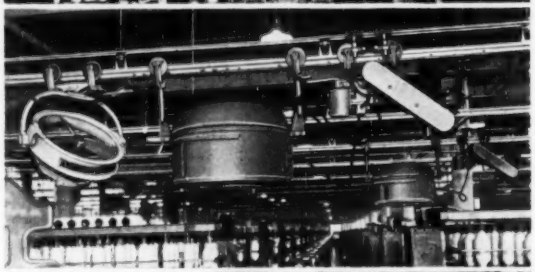
FINE HEYDEN CHEMICALS

Benzaldehyde • Benzoates • Benzoic Acid • Benzyl Chloride • Bromides • Chlorinated Aromatics • Chlorobenzenes • Creosotes • Formates
Formaldehyde • Formic Acid • Glycerophosphates • Guaiacols • Hexamethylenetetramine • M. D. A. (Methylene Disalicylic Acid)
Paraformaldehyde • Parahydroxybenzoates • Penicillin • Pentaerythritols • Salicylates • Salicylic Acid • Streptomycin

Automatic Cleaning UNDER LOW HEADROOM CONDITIONS



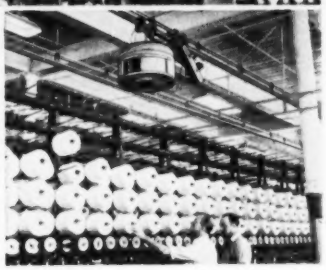




Low ceiling structures, low air ducts, low humidifying lines or any other low headroom condition can easily be met by American Mono-Rail Automatic Cleaning equipment. To accomplish this, the blower distributor housing is mounted as a trailer to the MonoTractor propulsion unit.

As little as 27½ inch clearance is all that is needed between the top of your twister or spinning frame creels and the ceiling. But don't bother to measure—call in the American MonoRail engineer. He will survey your mill, at no obligation, and give you the benefit of his wide experience in saving time and labor with automatic cleaning systems. It's a date if you'll write.

Send for copy of 24 page Bulletin CB-3 explaining arrangement for meeting low headroom conditions.



THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

Saco-Lowell 1935 Model Long Draft Spinning Frames mounted on Unisorb at Mount Vernon-Woodberry's Tallassee Mills, Tallassee, Ala.

NO FLOOR DAMAGE

...Because There's No DRILLING!

Eliminate Bolts and Lag Screws ... Mount Machinery on UNISORB

Easy to install, UNISORB-Mounting requires none of the maintenance care and expense you've been used to.

A special cement (we supply it) binds the UNISORB pads to machine feet and floor with a holding strength of 1500 lbs. per sq. foot *minimum.*

And it absorbs from 60% to 85% of transmitted noise and vibration . . . saves floors, building, machinery . . . often permits higher machine speed.

You'll want all the facts handy the next time you move a machine, or add a new machine — *or a new plant* — to your operation.

Write . . . *right now!*

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASSACHUSETTS

Offices: New York, Philadelphia, Chicago, Detroit
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THE FELTERS COMPANY
210-W South Street
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Gentlemen:

Please send my free copy of "Why It Pays to Anchor Your Textile Machinery with UNISORB."

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ADDRESS .....

COMPANY NAME .....

Cost-Cutting

QUICK, ACCURATE SPEED CONTROL WITH TEXROPE WIDE RANGE VARI-PITCH DRIVES!

QUICKLY SET EACH MACHINE for highest production with Texrope Vari-Pitch Drives. Speed range is wide. Operation is clean, smooth, quiet and positive. Yet with all these advantages, Texrope wide range Vari-Pitch Drives cost you less to buy, install and operate than any other kind of speed control.

Stationary Control—Lowest Cost Texrope Vari-Pitch speed changing method. Change speeds in five to eight minutes. Range — 50% to 100%.

Motion Control—Speeds changed instantly, *while machine is running.* Same 50% to 100% range. Greatest savings where speed changes are frequent.

Speed Changers — 375% range. Single handwheel sets speed accurately *while machine is running.*

Find out how much time and money you can save with Texrope Vari-Pitch Drives — in wide or standard range. Your Allis-Chalmers Authorized Dealer or District Office will gladly show you the actual savings on your operations in dollars and cents. Call one of these experts today.

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

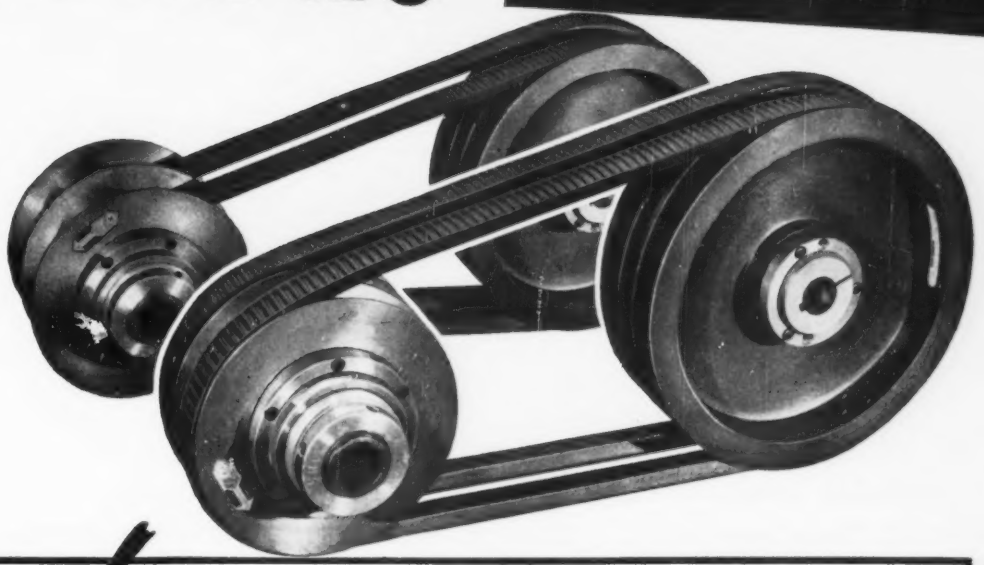
SPECIAL TEXTILE MOTORS CUT MAINTENANCE AND DOWN-TIME!

QUICK-CLEAN MOTOR — the original free-air-flow motor blows lint and dirt right through. Particles cannot adhere to smooth inner surfaces . . . motors cannot clog. Pre-lubricated sealed bearings run five years without attention. Will not leak grease to collect lint and soil fabrics. 3 through 15 hp. Many ratings from stock, others fast delivery.

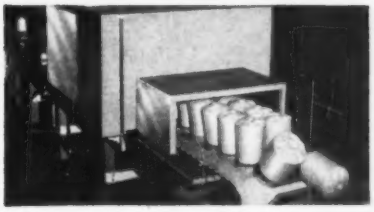
LOOM MOTORS — Totally-enclosed non-ventilated type especially designed for loom service. Prelubricated bearings operate five full years without maintenance. Cast steel frame with welded steel reinforcement blocks for extra rigidity. Double-dipped, double-baked insulation for longer life. Immediate delivery on ¾ and 1 horsepower ratings.

Texrope, Vari-Pitch and *Quick-Clean* are Allis-Chalmers trademarks.
A 2598

Ideas FOR TEXTILE MEN!



NEW SUPER-FAST DIELECTRIC CAKE DRYING AND TWIST SETTING



Many mills have greatly improved product quality and reduced costs with dielectric heaters. High speed operation, close control and uniform heating throughout produces results unobtainable by other methods.

Typical examples: Drying reduced from days to minutes. Shrinkage variation below 0.4%. Twist set with exposure of 7 minutes at total cost of 1/10th cent per lb. Greater uniformity of deadness. To investigate what dielectric heating can save in your production, call your nearby A-C district office.

ALLIS-CHALMERS

Originators of the Multiple V-Belt Drive for the Textile Industry

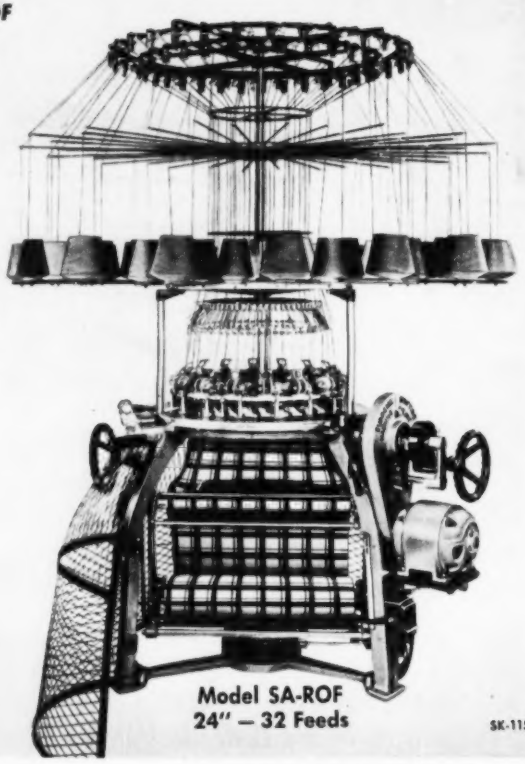
Now you can cross your bridges before you come to them . . .

SUPREME'S MODEL SA-ROF STRIPER TAKES THE "GUESTIMATING" OUT OF MARKET DEMANDS

Supreme's new Model SA-ROF helps you cross your "demand" bridges and join a select group of farsighted, hard-hitting knitters. No matter whether it is variable striped jersey . . . widely spaced "floatless" designs . . . or colorful plaids and checks . . . with this one (1) machine you are always ready to handle all the needs of your customers.

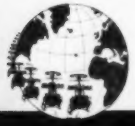
And here's the beauty of it! To accomplish all these different effects, simply change the pattern in the Three-Level Unitary Pattern Wheels and the 4-Color Drum Stripers and you're ready to roll on a new item. Down time is cut to a minimum . . . production raised to maximum.

For more information about the unusual fabrics and wider production range possible with the SA-ROF, write for your *free* copy of new booklet, "Variable Stripes and Plaids Pay."



Model SA-ROF
24" — 32 Feeds

SK-115



Mills Throughout the World Knit With Supremes

SUPREME

KNITTING MACHINE CO., INC.

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DESIGNED FOR THE FEMININE MARKET

Who buys your packaged textiles? Women, overwhelmingly. And women are eye-buyers, attracted by style, color, design. Is your textile package created with this ultimate consumer in mind?

Let our Textile Packaging Laboratory show you what scientific package design can do for sales. We research consumer reactions at the point of sale—study your packaging and distributing methods, and your costs—and recommend the package most efficient for your needs and most attractive to the woman buyer. Container Corporation of America has a long, successful record of packages designed to sell on sight.

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TEXTILE PACKAGING LABORATORY, PHILADELPHIA

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
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Telephone: Murray Hill 3-8650

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Inquiries as to our services solicited

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ESTABLISHED 1840

View of inside of the head end of the new Whitin Model "J" Comber showing easy accessibility to motor and fan drives.

Announcing.. the NEW

WHITIN Model "J" High-Speed COMBER

The new Whitin Model "J" eight-head, high-speed comber represents a major advance in the complicated art of combing. Production speeds heretofore thought to be impossible have been reached, yet the combed sliver produced is distinctly superior in quality. Many features of earlier combers which have been successful in mill operation have been retained and undesirable features have been eliminated. Sound engineering principles, modern streamlined design and precision construction combine to produce an entirely new comber that will be received with enthusiasm by all mills manufacturing quality combed yarns and by the textile trade in general.

Among the many innovations and improvements which distinguish the new Model "J" Comber are:

Increased Production — 150 Nips per minute. By the use of a new cam and gearing organization for operating the detaching rolls, an increase of 27% in speed of the combing cycle has been gained. On a long mill test, extending over a period of a year, this comber produced an average of 34 pounds per hour, together with a substantial reduction in neps.

Completely Enclosed Head and Foot Ends. Motor and fan for the aspirator, installed in head end, are free from dust and lint accumulation. Rounded off corners and wide swinging doors permit ease of cleaning, ready accessibility to every assembly, and reduction of accident hazards.

Bi-Coil Coiler. A 14" coiler can carried on a can table that receives a circular but non-rotating motion now takes two slivers instead of the usual one. Slivers are smoothly coiled, free from twist insertion, easily separated when being fed to the drawing frame. Reduces number of cans needed in drawing process by 50%.

Wider Draw Box. Width of draw box increased to 9½" insures better drafting of fibres.

You'll find the new Whitin Model "J" Comber a worthy addition to an already famous line of textile machines—a notable example of quality machinery built for long service and profitable performance.

A completely illustrated folder describing the new Model "J" Comber is now being prepared and will shortly be ready for distribution. Write for your copy today!

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA.

SUN "JOB PROVED" PRODUCTS CUT COSTS,

Sun products have been "Job Proved" in the lubrication of almost every type of mining, manufacturing, power, and transportation equipment . . . in refrigeration and air-conditioning . . . in metal cutting, tempering, and quenching . . . in the processing of textile fibers, leather, natural and synthetic rubbers . . . in the impregnation of electrical, electronic, and packaging materials of many kinds.

To help you solve your production problems, Sun Oil Company offers a wide selection of "Job Proved" petroleum products, plus the experience of Sun Engineers. Their know-how and detailed product information are yours for the asking. Call your local Sun office, or write Dept. T-1.

SUN OIL COMPANY • PHILADELPHIA 3, PA.

In Canada: Sun Oil Company, Ltd., Toronto and Montreal

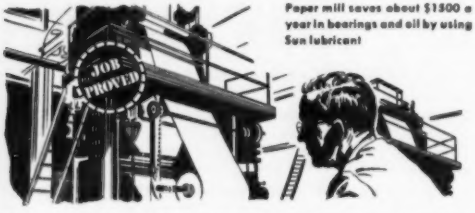
INDUSTRIAL OILS

SUNVIS 900 OILS—High-viscosity-index, paraffinic-type oils—of uniform O F pour point—fortified against rust, corrosion, oxidation, and sludge. The finest available lubricant for turbines, hydraulic systems, and similar applications.

SUNVIS HD 700 OILS—High-viscosity-index oils containing additives which minimize oxidation and give detergency. Ideal lubricants for internal combustion engines subjected to continuous heavy loads under the most adverse conditions.

SUNVIS OILS—Solvent-refined paraffinic-type oils of uniform high viscosity index, low pour point, and low carbon content. Especially suitable for application to long-time use in all types of industrial reservoirs and circulating systems.

DYNAVIS OILS—Low-pour-point, high-viscosity-index, inhibited oils, containing an additive which helps prevent formation of harmful corrosive and sludge-forming acids. Well suited for engines fitted with alloy bearings and operated at high temperatures.



Paper mill saves about $1500 a year in bearings and oil by using Sun lubricant

SOLNUS OILS—Well-refined straight mineral oils. Stand up under hard use for long periods of time. Recommended for use in machine tools, air compressors, certain types of diesels, etc.

CIRCO OILS—Used for general lubrication of industrial machinery when straight mineral oils are required.

SUNTAC OILS—100%-petroleum products which have been compounded to increase their adhesiveness. Recommended for general lubrication of all machines subjected to sudden shocks and load reversals. Cling to the parts to be lubricated.

STEAM CYLINDER OILS—High flash and fire point lubricants for either saturated or superheated steam conditions and for worm-gear speed-reduction units.

SUN CAR JOURNAL OILS—Dark oils meeting A.A.R. Specifications. For use in waste-packed bearings of railroad equipment.

SUN DELAWARE OILS—Dark oils for general lubrication on older types of industrial machinery.

SUNOCO WAY LUBRICANT—For use on tableways. Eliminates chatter and scoring . . . resists corrosion. Has good metal-wetting and adhesive properties, ample viscosity, and E. P. qualities.

SUN MARINE ENGINE OILS—Compounded with special emulsifying agents in order to provide adhesion to, and lubrication of, working parts in the presence of water. For the lubrication of bearings, eccentrics, crossheads, and various other parts of steam engines.

ROCK DRILL OIL—High-film-strength adhesive oil. For use in jackhammers, stopers, drifters, and similar equipment.

INDUSTRIAL GREASES

SUN CUP GREASES—Water resistant. For grease-cup and grease-gun application when service is normal.

SUN GUN GREASES—Smooth greases made with medium-viscosity oil. Stable under pressure in power and booster guns.

ADHESIVE PRESSURE GREASES—Won't drip or splash. Excellent lubricants for open-gear applications.

SUN DARK PRESSURE-SYSTEM GREASES—For power-driven central grease lubricating systems in heavy industries. Also used as a "medium cup grease."

SUN MINE CAR GREASES—Available in several grades. Suitable for both antifriction bearings and plain-bearing cavity-type wheels.

SUN MINING MACHINE LUBRICANT—Semifluid. For use where a light but adhesive grease is required. Resists separation and decomposition.

Chemical plant saves about $8000 per year by adopting Sun Pressure Grease

SUN ROLLER BEARING GREASES—For use on electric motors and generators and high-temperature machinery equipped with ball or roller bearings.

SUN GEAR COMPOUNDS—Black adhesive open-gear compounds and

"JOB PROVED" IN EVERY INDUSTRY

SUN PETROLEUM

SPEED PRODUCTION, IMPROVE QUALITY

wire-cable greases. Recommended for power presses, mining machinery, worn reduction mills, crushers, pump gears, etc.

SUNOCO TRACTOR ROLLER COMPOUND—For crawler-type tractors. Provides good lubrication with exceptional sealing qualities.

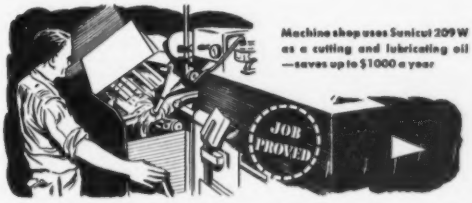
METALWORKING OILS

SUNICUT—Straight (non-emulsifiable) transparent cutting oils. Recommended for automatic screw machines and heavy-duty machining operations. Permit high speed production with excellent finishes, long tool life.

SUNOCO EMULSIFYING CUTTING OIL—A self-emulsifying oil which produces a stable white emulsion. Efficient and economical cooling and lubricating medium for turning, milling, drilling, and other metalworking operations on both ferrous and nonferrous metals. It is also an excellent grinding coolant.

SUN QUENCHING OILS—Specially refined oils designed to aid development of maximum physical properties in a wide variety of steels.

SUN TEMPERING OILS—Specially refined oils for tempering steel. Because of their low carbon content and stability under heat, these oils have an unusually long service life.



Machine shop uses Sunicut 209 W as a cutting and lubricating oil —saves up to $1000 a year

SUN ROLLING OILS—Straight and emulsifying oils which will permit maximum production in rolling steel, aluminum, brass, and copper.

SUN ANTI-RUST COMPOUNDS—Petroleum-base oils with chemical additives designed to prevent the rusting and corrosion of steel.

REFRIGERATION OILS

SUNISO REFRIGERATION OILS—Have extremely low pour points, extremely low wax-separating characteristics, a high degree of stability and long life. Initially neutral and resistant to formation of detrimental acids under service conditions. Suniso Oils are high quality oils suitable for both high- and low-temperature operations. The most widely used oils in refrigeration and air-conditioning.

Sports arena steps up compressor efficiency 15% by switching to Suniso Oil

TEXTILE-PROCESSING OILS

SUNOTEX TEXTILE OILS—Designed to impart certain additional properties to various forms of fibers during their processing from the fiber state into a manufactured product. All Sunotex textile oils are emulsifiable in water. Highest rating in fadometer tests.

SUN COTTON CONDITIONING OILS—Pale mineral oils which condition the cotton. They prevent waste by cutting down excessive amounts of "fly" (fine air-borne lint particles).

Worsted mill obtains easier scouring, better quality, larger yield with Sunotex WO-220

SUN ASBESTOS FIBER CONDITIONING OIL—Used for spraying on the asbestos during processing. Fibers are kept from being damaged or broken down, and harmful dust is minimized when this product is used.

SUN CORDAGE OILS—Generally used alone, but are adaptable to various formulas used by cordage manufacturers. Selected products, highly compatible with additives.

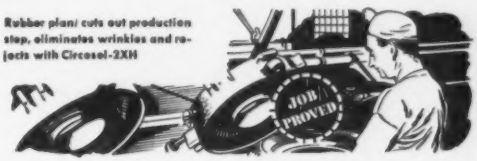
RUBBER-PROCESSING AIDS

CIRCOSOL-2XH—An elasticator and processing aid for natural rubber and especially for GR-S. Outstanding for sponge rubber.

CIRCO LIGHT PROCESS AID—A processing agent and excellent softener for natural rubber, natural rubber reclaims, and neoprene synthetic rubber. Used for GR-S to some extent.

SUNDEX-54—An inexpensive product suitable for processing GR-S and blends of GR-S and natural rubber. An established processing aid for rubber footwear stocks and semihard rubbers.

Rubber plant cuts out production step, eliminates wrinkles and rejects with Circosol-2XH



CIRCOMAR-5AA—A black-colored product for processing natural and GR-S rubber used in tire-making. Also used in reclaiming natural-rubber scrap. Replaces asphalt fluxes. Free-flowing at room temperature.

WAXES

Sun's new wax plant will be completed in 1949. Its many refining innovations and extreme flexibility will permit new types of waxes to be manufactured in large quantities—a procedure heretofore impracticable. A wide range of fully refined paraffin and microcrystalline waxes will be "tailor-made" to meet the requirements of virtually all major industrial applications. Pilot plant samples of several grades are now available.

MISCELLANEOUS INDUSTRIAL PRODUCTS

SUN SOLVENTS—Sun Spirits for the thinning of paints, varnishes, and enamels, and for metal-cleaning . . . a pure, water-white petroleum solvent free of corrosive sulphur. Other Sun solvents with special properties are available for the chemical industry.

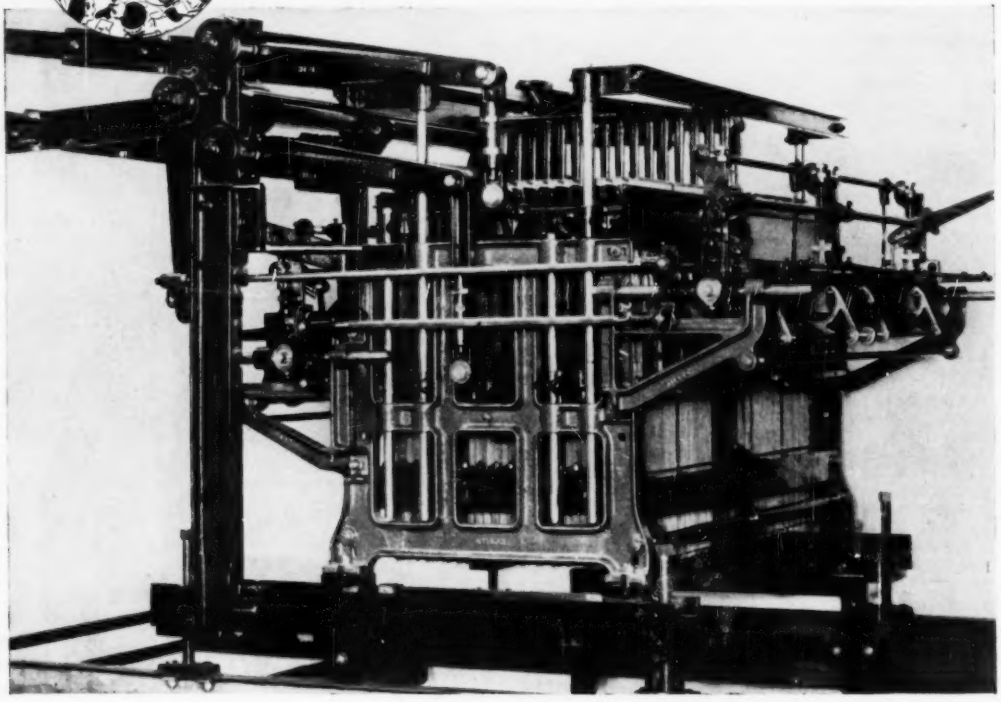
SUN LEATHER OILS—Mineral-base leather oils. Used for obtaining the desired tensile strength, proper temper, and controlled moisture content. Maintain a light even color . . . mix well . . . distribute evenly.

"JOB PROVED" IN EVERY INDUSTRY

PRODUCTS SUNOCO

New Freedom FOR FABRIC DESIGNERS!

New Markets FOR MERCHANDISERS!



. . . with this *New High-Speed* CROMPTON & KNOWLES JACQUARD

Now you can give your fabric-designers *free rein.* For C&K's new double-cylinder 2608-hook jacquard will reproduce any design faithfully . . . at high or low speeds . . . with far less attention than you ever thought possible with *any* jacquard machine.

New merchandising horizons open up . . . new promotions . . . new markets . . . limited *only* by creative ability. Here is the open door to a *newer* New Look in upholsteries, draperies, table damask, bedspreads, dress goods, linings, blankets and quilts. For you can use this new C&K Jacquard in *any* fabric construction.

This is the *only* 2608-hook, double-cylinder jacquard. With its independent cylinder drive, it will extend the scope and speed of any loom now equipped with a single-cylinder jacquard to the point where initial cost will be repaid in a matter of months. Ask your jacquard men to look into this—and all other—new C&K developments. There's a new illustrated publication, giving full mechanical details, which they—or you—may have for the asking. Write today.

This "Invisible Trademark" Stands Behind the Trademarks of Many of the World's Most Famous Jacquard Fabrics

Crompton & Knowles Jacquard & Supply Co.

PAWTUCKET, RHODE ISLAND, U. S. A.

Subsidiary of CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Massachusetts

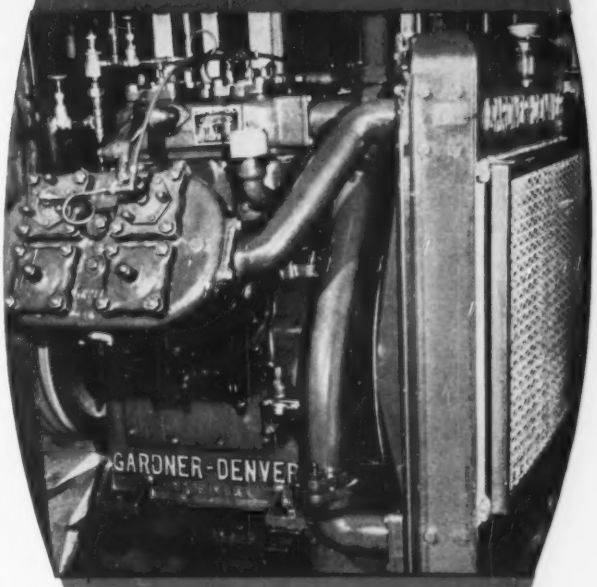
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

You get ALL THREE with a "WB" . . .

- Greater air output
- In less space
- At lower cost

Gardner-Denver "WB" Vertical Compressors have the compactness you need for installation in limited space . . . yet because of their special design, these compressors have high efficiencies. Air output is much greater than that obtained with single-stage compressors of equivalent piston displacement. All cylinders are completely water-jacketed, assuring reliable operation in any temperature and at any altitude. Other valuable "WB" features are:

- *Combination radiator and air-cooled intercooler permits use where cooling water is scarce or of poor quality.*
- *Completely water-jacketed cylinders for maximum operating efficiency in any temperature or at any altitude.*
- *Duo-Plate cushioned air valves—simple, durable, unusually quiet.*
- *Timken tapered roller main bearings.*
- *Crankcase of GarDurloy alloy—completely enclosed, dust tight, oil tight.*



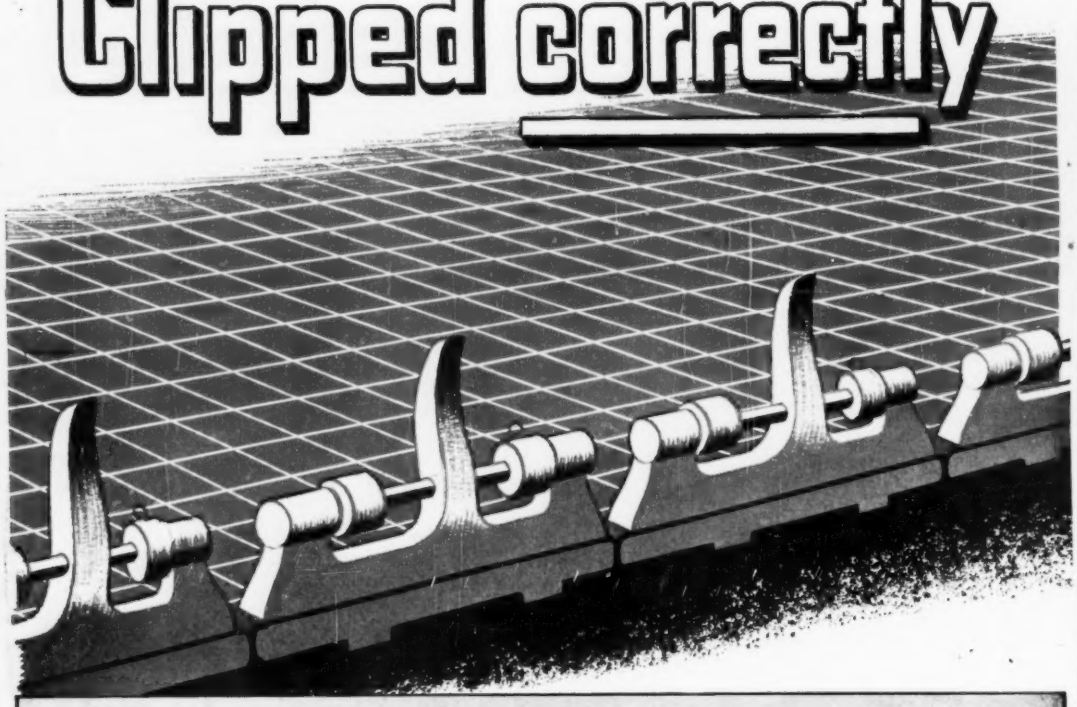
Gardner-Denver "WB" Two-Stage, Water-Cooled Compressor

For complete information, write Gardner-Denver Company, Quincy, Illinois.

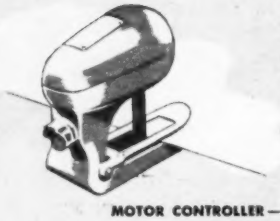
GARDNER-DENVER
SINCE 1859

Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

Clipped correctly

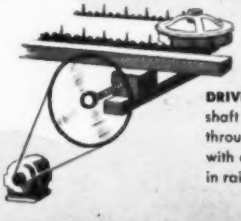


HOW A G-E TENTER-RAIL GUIDER OPERATES



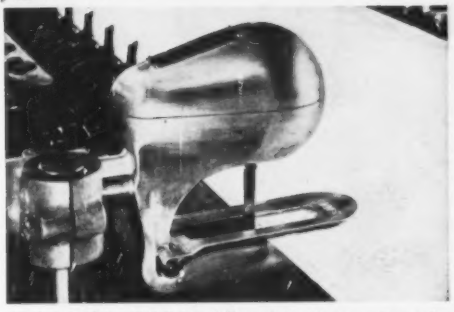
FEELER SWITCH—Just before the cloth enters the tenter, its selvage comes in contact with the blade of a highly sensitive feeler switch, one on each side of the cloth. The instant this blade detects any irregularity in the selvage, it actuates a motor controller.

MOTOR CONTROLLER—This unit consists of two sturdy reversing motor controls, each connected to a feeler switch. These controls are capable of quickly starting and stopping a fractional-horsepower motor.



DRIVE MOTOR—Each swinging rail is mounted on a screw shaft which is coupled to a fractional-horsepower motor through a speed-reducing drive. These motors operate with a staccato action to give the continuous adjustments in rail position called for.

G-E Guiders automatically assure correct placing of tenter clips through proper positioning of each rail. Spoilage is reduced, tentering is speeded up.



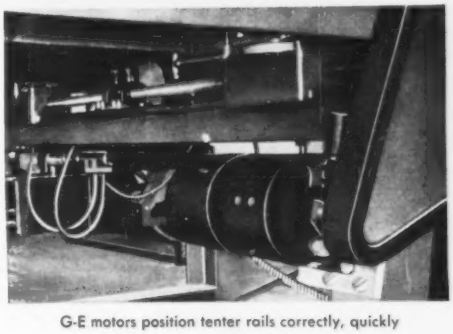
Feeler switch in a G-E Guider follows cloth selvage continuously

TO eliminate a prime cause of spoilage and re-runs, General Electric suggests you investigate its practical Tenter-Rail Guider. By automatically positioning tenter rails so that *every* clip has an opportunity to grip the cloth correctly, it assures uniform tentering, greater operating speed, and a reduced spoilage loss.

For, if even a few of the clips in your tenter are missing the cloth selvage entirely or gripping it in the wrong place, you're paying more for tentering than you should.

The equipment is simple and relatively inexpensive. It swings the rails quickly and positions them accurately, makes manual adjustments by the operator unnecessary. Evenly stretched cloth, ready for subsequent finishing operations, leaves the tenter at a high rate of speed.

For more detailed information on G-E Tenter-Rail Guiders, contact your nearest G-E office or write for Bulletin GEA-5214. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*



G-E motors position tenter rails correctly, quickly

GENERAL ELECTRIC

661-30

DRIVE SYSTEMS FOR TEXTILE MILLS

ARMSTRONG DISCOVERY UPSETS OLD IDEAS ON THE CAUSE OF TOP ROLL LAPPING

Research reveals little known force that attracts fibers to roll covers

Contrary to popular belief, static electricity has little effect on top roll lapping. Armstrong researchers found, instead, that the probable cause of this troublesome problem is an attraction resulting from a force known as the electrokinetic potential.

This attraction occurs in a water film of molecular thickness, such as is deposited on cots and fibers by the humid air in textile mills. Thus when ends break, the forces present in the water film attract the fibers to the top roll and cause them to lap.

To verify their conclusion that static electricity has little effect on lapping, Armstrong scientists made special cots that would conduct electricity. These static-free cots lapped just as badly as ordinary cots that had not received special treatment.

In their work, Armstrong rubber chemists made cots from compounds to which they had added materials called electrolytes. These ran with virtually no lapping. Only certain electrolytes had this effect. Research into little known branches of chemistry finally uncovered the reason for this action. In brief, these electrolytes effectively eliminated the attraction of the water film.

For some time, all Accotex® roll covers have incorporated this exclusive Armstrong feature. The reason behind their lap resistance, however, could not be revealed until recently when patents on this technical improvement were issued to Armstrong.

This development is typical of the work that is constantly being done at Armstrong to help you produce better yarn, faster and more economically. Whether you're spinning cotton, wool, or synthetics, Armstrong can supply a roll cover specifically designed for the job. Your Armstrong representative will gladly arrange a test run of these improved Accotex Cots in your mill. Call him today or write to the Armstrong Cork Co., Textile Products Dept., 8301 Arch Street, Lancaster, Pa.

ACCOTEX J-490. A plain synthetic rubber compound especially useful where synthetic fibers are run on cotton system equipment or wherever high lap resistance is necessary. For maximum freedom from eyebrowing, use revolving clearers.

ACCOTEX NC-727. A cork-loaded synthetic rubber that combines the superior drafting qualities of cork with the longer life of synthetic rubber. Designed for maximum eyebrow resistance in a synthetic cot. May be used with flat clearers.

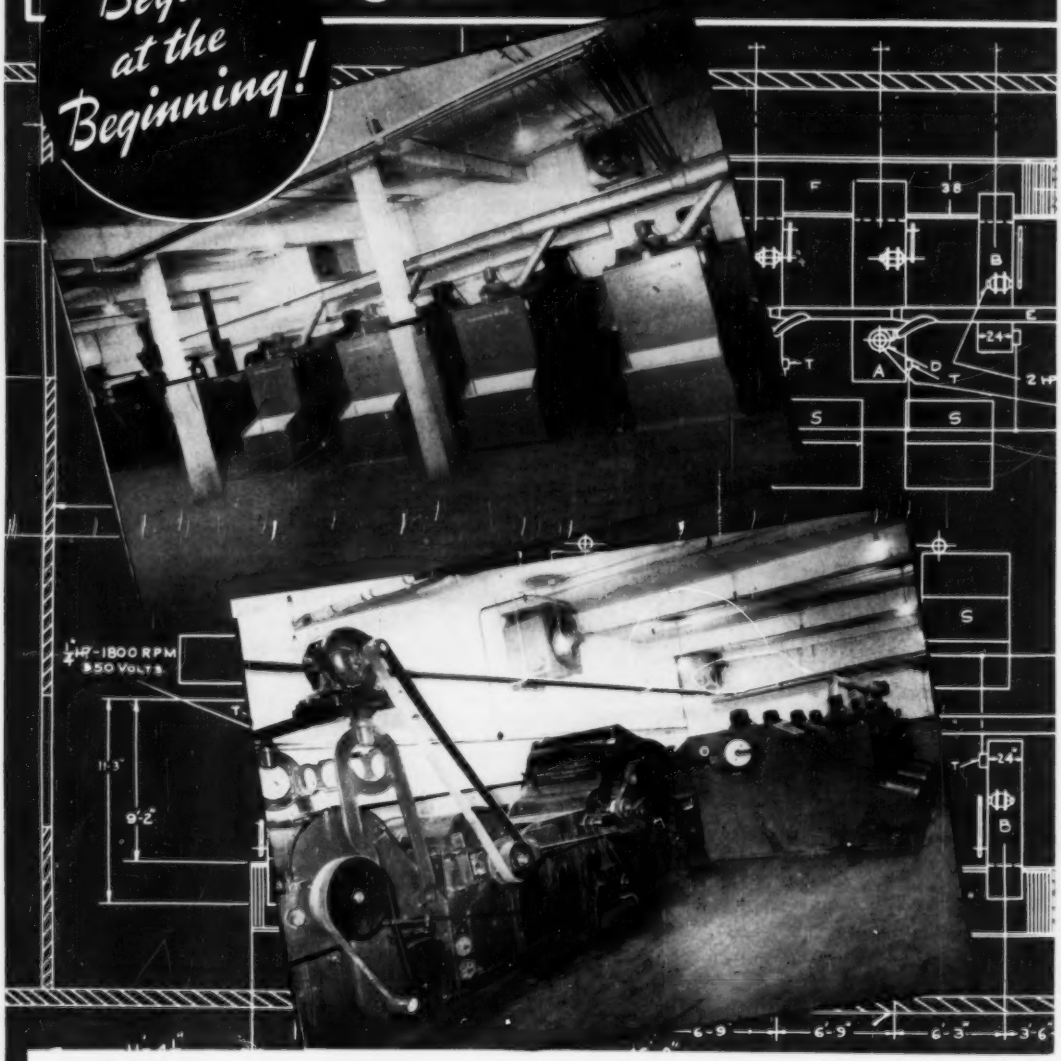
AVAILABLE FOR EXPORT

ARMSTRONG'S ACCOTEX COTS

CORK COTS • ACCOTEX APRONS • ROLL SHOP EQUIPMENT

H&B Opening

Begin at the Beginning!

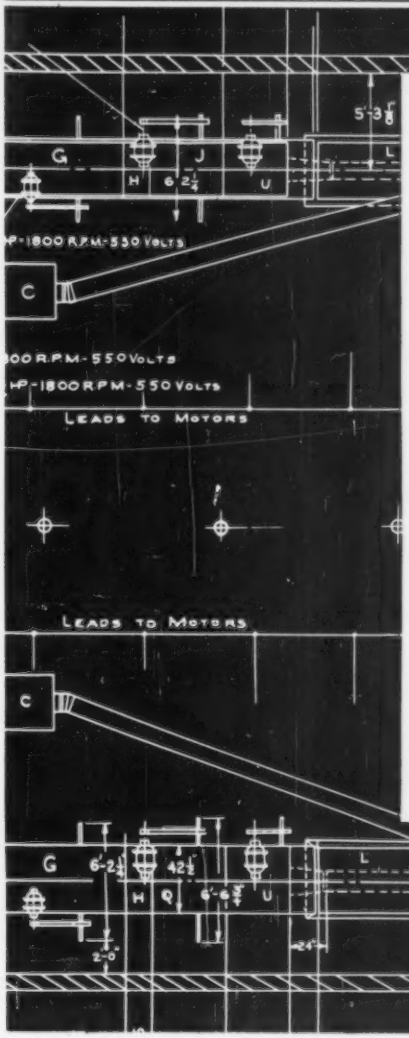


H&B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

Room Machinery



THE OPENING ROOM shown here demonstrates how a modern mill begins at the beginning. It was laid out by H & B engineers, cooperating closely with the mill management, to provide the last word in opening and cleaning efficiency.

Here, Blending Feeders, Waste Feeders, Hopper Bale Openers, 30" Opening and Cleaning Units, Cleaning Trunkings and Superior Cleaners work in perfect harmony and unison — controlled by electrical and mechanical timing devices — to supply six lines of H & B A-1 One Process Pickers with the right amount of raw stock at all times.

Ample floor space behind the Blending Feeders allows a continuous blend of from 30 to 50 bales, while H & B equipment, engineered with skill and ingenuity, guarantees a flow of raw stock that is really opened and cleaned.

This service is available to any mill which, like this one, feels that it is necessary to *begin at the beginning.*

MACHINE CO.

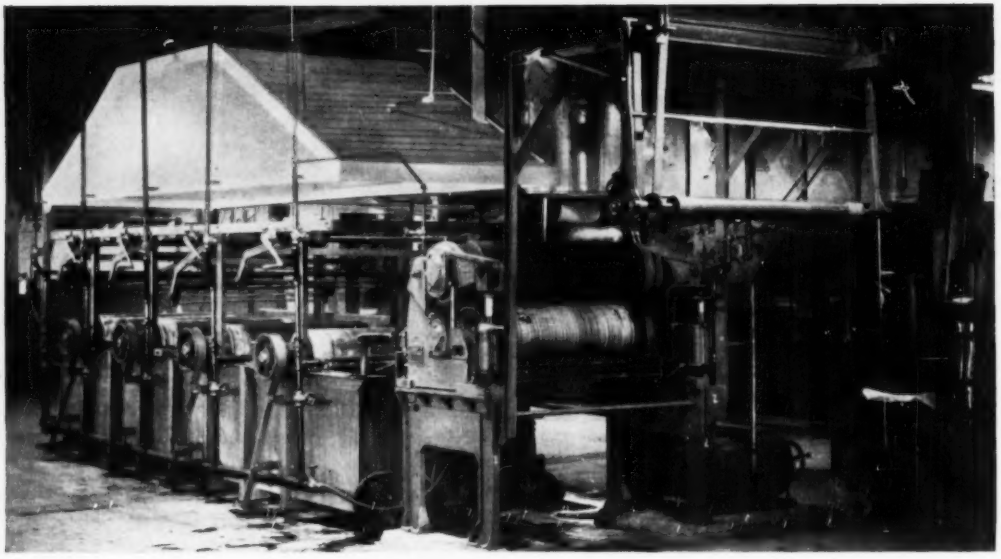
Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U.S.A.

BRANCH OFFICES
ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

The Fleet Line

4-BEAM PROGRESSIVE JIG



A New York Bleachery Installation That Divides Work Time By Three!

This New York mill uses The Fleet Line 4-Beam Progressive Jig to boil off heavy cottons in open width. Collar cloth, gabardines, heavy drills, twills, ducks, etc., which would be permanently creased in a kier are processed in this machine. What's more, the machine does in 11 hours what the kier at this mill did in 36.

Here are some of the jig's important features:

1. Beams of larger diameter which hold twice as much fabric and are deeper in the bath at all times.
2. Counter-balanced rider roll on each beam with bow bars to keep the goods in open width as they roll on to the beam.
3. Improved entrance frame.
4. Increased heating coils to keep liquor very near the boil.
5. Squeeze rolls are heavy duty, air operated; squeezed out liquor returned to tank by drip pan under rolls.

Let us make recommendations on your wet finishing requirements.

RIGGS AND LOMBARD

FOOT OF SUFFOLK STREET — LOWELL, MASSACHUSETTS

DOMESTIC AGENTS: Paul A. Merriam, 1491 Broad Street, Providence, R. I. • Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa. • Charles H. Dunker, 701 7th Street, Coronado, California.

EXPORT AGENTS: Latin America — Meyer, Lyra & Co., 228-229 Fulton St., N. Y., N. Y. • Balkan States, Egypt, Palestine, India — Arlind Corp., 509 Madison Ave., N. Y., N. Y. • South Africa — Noel P. Hunt Pty, Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

THE FLEET LINE OF FINISHING EQUIPMENT

CLOTH WASHERS, BATCH AND CONTINUOUS • FULLING MILLS • PIECE DYE KETTLES • DYE BECKS • ROPE SOAPERS
CLOTH CARBONIZING RANGES • SOAPING MACHINES • DERBY CONTINUOUS DRY CLEANERS • TENTER DRYERS
STOCK DYE KETTLES • ROLLS • MULTI-LAP CONTINUOUS PROCESS MACHINES • TOP DYEING MACHINES
CRUSHERS • REELS • PARTS

THERE'S MORE TO *Knitting Yarn* THAN MEETS THE EYE

It is not entirely a matter of how yarn looks. Cones of yarn look more or less alike. We have always felt that the measure of truly high quality knitting yarn is what it does for the knitter.

CROSS Knitting Yarns are made on that basis . . . . . made with an eye on the ultimate sale. That's why more and more famous name knitters insist on CROSS yarns.

Used by Knitters of Polo Shirts, Infants' and Children's Wear and Women's Underwear

SINGLE and PLY · BLEACHED or DYED · ON CONES

CROSS

COTTON MILLS COMPANY

MARION, N. C.

DOUBLE CARDED AND COMBED KNITTING YARNS

Industrial Yarn Co.
351 Broadway
New York 13, N. Y.

I. I. Davis
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Philadelphia, Pa.

Representatives

Joseph Klumpp Co.
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P. O. Box 736
Pawtucket, R. I.

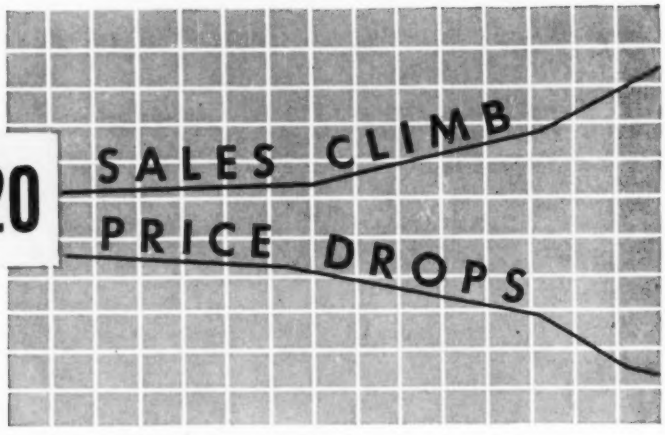
Causey Bros.
Southeastern Bldg.
Greensboro, N. C.

David F. Swain & Co.
222 W. Adams St.
Chicago 6, Ill.

FOR YOUR INFORMATION

To woolen and worsted spinners:

SYTON W-20



Was 20c lb.

NOW 15¢* lb.

Includes royalties under U.S. Pat. 2,443,512 issued to Monsanto Chemical Company. Full details and license agreements furnished on request.

As sales of Syton W-20 climb, Monsanto announces a net price reduction of 25% for woolen and worsted spinners.

Every month, more mills have tried Syton W-20 . . . liked it . . . ordered it . . . and reordered it. This growing volume means lower costs . . . savings which Monsanto is promptly passing along.

Reports from more and more mill men tell how Syton W-20 gives them more efficient spinning at lower costs. Proof that you can get the same results *at a new low price.*

ADVANTAGES SYTON DELIVERS

Syton W-20 adds 10% to 30% to the tensile strength of yarns spun on the woolen or worsted system. With increased strength, spinners can reduce twist, thereby get increased production and loftier yarns. Syton W-20 also enables spinners to produce more uniform yarns closer to limit spins than were previously possible. Weavers and spinners report fewer ends down . . . another major Syton W-20 advantage.

Monsanto research invented Syton W-20 . . . Monsanto technicians adapted it to textile spinning. Monsanto's position as pioneer and leader in the field is confirmed by U.S. Patent 2,443,512 covering the application of silica sols to any textile fiber as an aid to spinning. For information and technical help at your plant send the coupon.

Faster and easier to de-size! Monsanto's Stymer for acetate is easily scoured in warm water containing a detergent. No enzymes or strong scouring agents are necessary. And there's a substantial saving in operating time. A typical mill report says Stymer is washed out in only 30 minutes compared to 1 and ½ hours or more for other sizing materials.

Stymer makes another important time saving in slashing. It does not set up in pipes, boxes or tanks. And it eliminates the time-consuming removal at the end of each working period for sizes which gel.

STYMER

Monsanto's NEW acetate size

SAVES DE-SIZING TIME

ALL THESE ADVANTAGES GO WITH STYMER

1. **Uniform film, exceptionally strong, abrasion-resistant, smooth and flexible.**
2. **Easily applied in a uniform coating on the individual yarn.**
3. **Adheres well to the fiber.**
4. **Reduces static, because it has high conductivity.**

IN SLASHING, Stymer does not stick to uncovered dry cans, stops static electricity troubles, separates easily at the lease rods and does not gel in the pipes or size box.

IN WEAVING, the warps sized by Stymer show little or no shedding, maintain yarn twist, have fewer end breaks and produce a more uniform fabric.

Stymer is a development of Monsanto research. The Monsanto technicians who helped introduce Stymer are ready to work with you at your own mill.
Just send the coupon for Monsanto's technical bulletin describing sodium Stymer for acetate slashing. Or for assistance with Stymer by Monsanto. Syton, Stymer: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS—PLASTICS
SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, TEXTILE CHEMICALS DEPARTMENT
Desk No. TWT-13, 140 Federal Street, Boston 10, Mass.

Please send me information on ☐ *Syton,* ☐ *Stymer. My enclosed letter requests information and assistance with* ☐ *Syton,* ☐ *Stymer at my mill.*

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

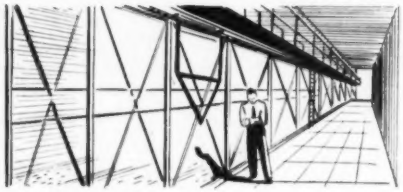
TO SERVE YOU BETTER

US IS

BUILDING . . .

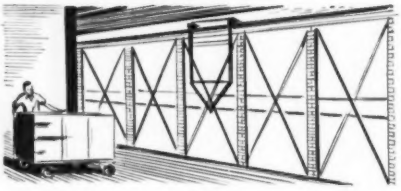
Our recent purchase of additional forest tracts in the Adirondacks gives us the largest reserves of virgin hardwood timber in our history. To process this premium grade stock at its source, we have completed a great new plant at Tupper Lake, N. Y. —with multiple splitter and saw capacity plus precision seasoning equipment and ample storage for shipment as needed. *To serve you better—superior materials—in ample supply—for present and future needs.*

BUILDING . . .



At our Lawrence plant, an additional battery of eleven big-capacity kilns is ready for action. No expense has been spared to make these new facilities the most modern in use anywhere—with automatic, instrument controls plus improved design to speed loading and unloading. This assures that every U S item you order has all the advantages of *modern manufacture plus large volume output to speed deliveries.*

BUILDING . . .



Improved equipment has recently been installed in our enameling department—one of many improvements in processing to turn out better quality at a faster rate. Here again is an example of the U S policy to manufacture the finest products—provide the best of service—and to make deliveries in the shortest possible time after an order is received.

Consult a U S Representative regarding your requirements in spools, bobbins, shuttles, cones, rolls and other U S products. He's a practical millman, familiar with textile processes and able to offer experienced advice to help you make your choice.

US BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
GREENVILLE, S. C.

CHICAGO REPRESENTATIVE:
Albert R. Breen
80 E. Jackson Blvd.

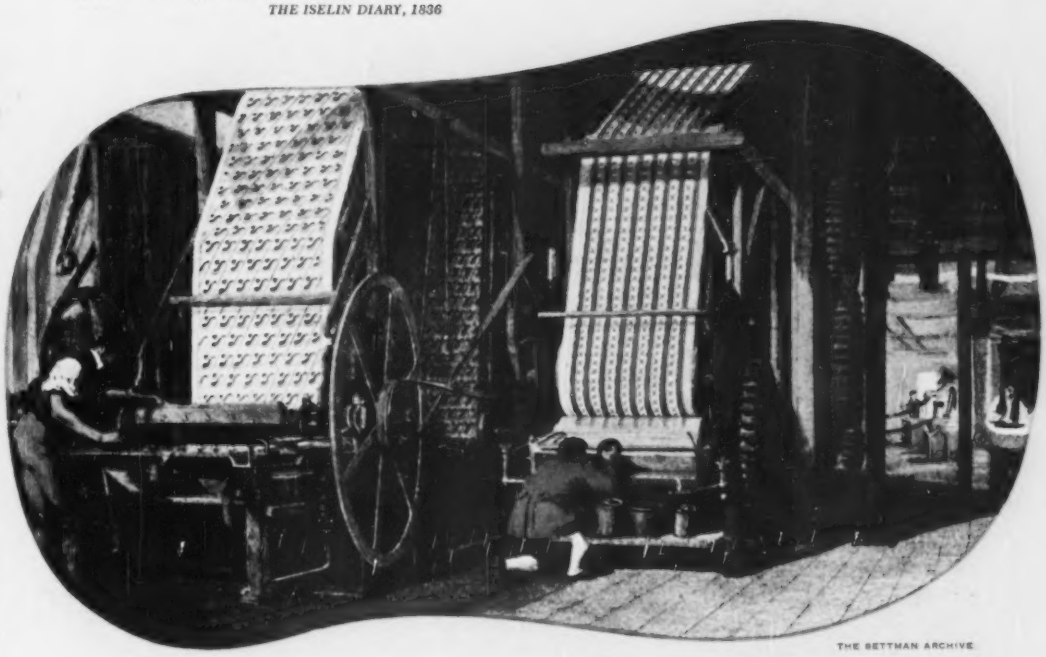
LAWRENCE, MASS.

ALABAMA REPRESENTATIVE:
Young & Van Supply Co.
Birmingham

JOHNSON CITY, TENN.
CHARLOTTE, N. C.

CANADIAN REPRESENTATIVE:
W. J. Westaway
Montreal Ave., Hamilton, Ont.

Industry is making great progress in applying power to every process of manufacture.
THE ISELIN DIARY, 1836



THE BETTMAN ARCHIVE

New methods for new business

In 1836, too, new production methods stimulated industry—but called for more working capital, more sales. Many manufacturers found profit in the financing and marketing counsel of the firm of Iselin, already 28 years old. . . . Today, 140 years' experience in consumer goods industries is at your service. Iselin Factoring turns accounts receivable into productive cash, stops credit losses. . . . We owe our long, successful history to our clients' prosperity. You, too, will find our time-proved methods stimulating to your business. Send for booklet on our Factoring service to industry.

William Iselin & Co., Inc.

357 Fourth Avenue, New York 10, N. Y.
FOUNDED IN 1808

throw away that crystal ball

Despite the uncertainties of the next few years, one fact is admitted in the textile industry. Profits must come from savings; further markups are dangerous. And no textile man needs a crystal ball to see how to effect these savings. In winders particularly, the means are evident. *Greater production* of a *better product* at *less cost* can be more or less achieved by any modern winder. But that alone is not enough. Winding equipment must also be **FLEXIBLE**,—adaptable to changing fibre and yarn requirements, for change is the order of the day. The Foster Model 102 is the **ONLY** winder of its type which offers maximum flexibility in addition to the other modern requirements.

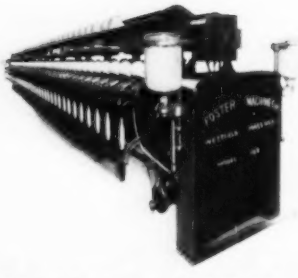
HERE'S THE STORY:—

FLEXIBILITY – Will handle any count or type staple yarn with same traverse mechanism—any angle of wind from 9° to 18°—any ordinary taper. Can be equipped to wind knitting cones, warper cones, dye packages, tubes or short traverse cheeses, one type on each side of the machine if desired.

INCREASED PRODUCTION – Doubles production over obsolete models because of high winding speeds (up to 700 y.p.m.) and labor saving devices mentioned under "**ECONOMY**". 7″ traverse packages instead of standard 6″, if desired.

ECONOMY – Reduces operating costs ⅓ under obsolete models because of self threading tension devices, easy doffing, 7″ traverse package, if desired, and empty bobbin conveyors which empty into standard sized trucks. Repair costs as low as $3.50 per year per 100 spindle machine.

QUALITY PRODUCT – Automatic inspection. Conditioned yarn. Convex base prevents underwinding and nipping. Ribbon breaker prevents ribbon wind. Uniform density and properly shaped cones. Minimum tension on soft twist yarns prevents excessive breakage.



Send for Bulletin A-95 for complete data.

FOSTER MACHINE CO.

Westfield, Mass., U.S.A.

Southern Office: Johnston Bldg., Charlotte, North Carolina; Canadian Representative: Ross-Whitehead & Co., Ltd., University Tower Bldg., 660 Ste. Catherine Street, West, Montreal, Quebec; European Representative: Muschamp Taylor Ltd., Manchester, England.

FOSTER MODEL 102

The Flexible Winder

FOR COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN SILK OR SPUN RAYON YARNS

WHEN YOU'RE THINKING OF PLANT MAINTENANCE . . .

give it both barrels!

Dispense with half-way measures when you're thinking of paint for your plant—give it both barrels: Sherwin-Williams Save-Lite White for the light, cheery surroundings that eliminate eyestrain, speed production . . . Sherwin-Williams "prestudied" Color Harmony that promotes safety, reduces nervous tension, helps produce more and better products.

SHERWIN-WILLIAMS Save-Lite Whites

There's a Save-Lite White paint—flat, eggshell or gloss—that's right for *your* particular requirements! Need a Save-Lite White that gives outstanding resistance to fumes? One that resists *both* moisture and fumes? One that combines moisture resistance with high-speed drying? Then find out more about the great Sherwin-Williams Save-Lite White line! Take advantage of the years of research spent by Sherwin-Williams in formulating these superior whites! If you want *lasting whiteness* that *enhances safety* by reflecting more light, *reduces rejects, cuts unit costs*—you want a dependable Sherwin-Williams Save-Lite White!

SHERWIN-WILLIAMS Color Harmony

Using one of the great variety of prestudied Color Harmony combinations, for walls and machinery, available from Sherwin-Williams, is like putting an extra force to work for you in your plant!

Sherwin-Williams Color Studios engineered all the colors into a group of comprehensive color harmonies that *increase output, improve working conditions, cut down costs!* We know many, many instances of the wonderful savings realized through the use of Sherwin-Williams Color Harmony. Here's just one—a radio tube manufacturer *cut breakage and rejections over 15% by recoloring his machinery.* Let us give you the full Color Harmony story! The Sherwin-Williams Co., Cleveland 1, Ohio. (Export Division, Newark, N. J.)

Products of SHERWIN-WILLIAMS Industrial Research

Available at 385 Sherwin-Williams branches located in principal cities.

SHERWIN-WILLIAMS INDUSTRIAL FINISHES

PERKINS

Perkins Calender Rolls—the natural result of the longest and broadest experience in the industry give a quality that is definitely reflected in your product. Perkins service includes refills of any make of calender rolls.

B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Gulf Lubrication Engineers recommend

GULF HARMONY OIL

"Always keep your comb boxes filled to the proper level with Gulf Harmony Oil," is the advice of Gulf's practical Lubrication Engineers. They know from experience that this quality lubricant insures trouble-free comb box operation indefinitely.

Gulf Harmony Oil has superior lubricating value—providing long lasting protection against excessive wear, overheating, and leakage in comb boxes. It has superior resistance to oxidation—does not form harmful sludge. Thus small oil passages are kept clean and free.

For longer life and lower maintenance costs, keep your comb boxes filled to the proper level with Gulf Harmony Oil. To get the benefits possible through the use of this quality lubricant and for expert help on other phases of improved lubrication, call in a Gulf Lubrication Engineer today.

GULF INDUSTRIAL LUBRICATION

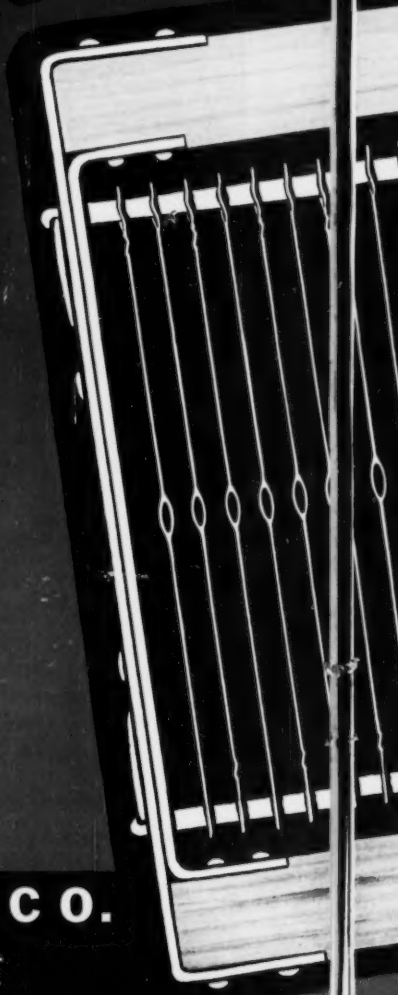
Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
New Orleans · Houston · Louisville · Toledo

Ste-Hed-Co Loom Harness

Weaves the World's



THE importance of maintaining production schedules and producing top quality woven material has caused mills all over the world to insist on Ste-Hed-Co Loom Harness Equipment.

Assure yourself of maximum Quality Production by standardizing on Ste-Hed-Co.

STEEL HEDDLE MFG. CO.
2100 W. Allegheny Ave., Philadelphia 32, Pa.
and
SOUTHERN SHUTTLES DIVISION
621 E. McBee Ave., Greenville, S.C., Shuttle Plant, Paris S.C.

Atlanta, Ga. · Greensboro, N.C. · Providence, R.I. · Montreal, Can.

Equipment
Needs!
STEE
MANUFACTURERS OF—
Flat Steel Heddles
Loom Harness Frames
Loom Reeds
(Pitch Band and All Metal)
Warp Preparation
Equipment
Loom Harness
Accessories
Southern Shuttles
(Tempered Dogwood,
Persimmon & Fibre Covered)

Any V-BELT Changes Shape *when it Bends*

Prove this yourself!

That's Why the CONCAVE SIDE

(U. S. PATENT NO. 1813698)

The Mark of SPECIALIZED Research

Gives You 2 Big SAVINGS!

Bend *any* V-Belt and *f e e l* it change shape. The top, under tension, *narrows*. The body, under compression, *widens*. The sides of the belt bulge out.

Straight-Sided V-Belt

Straight-Sided V-Belt Bulges in Sheave-Groove.

The result, if the belt is built with *straight* sides, is a shape that does not fit the sheave groove — as shown in Figures 1 and 1-A, above.

Now, bend the V-Belt built with the precisely engineered Concave Side (U. S. Patent No. 1813698) — the Gates Vulco Rope.

Gates Vulco Rope With Concave Side.

No Side Bulge. Precise Fit in Sheave Groove.

You get the same shape change but *now* the new shape *exactly fits* the sheave groove as shown in Figures 2 and 2-A.

Results— (1) *Uniform* side-wall wear; *longer* life. (2) *Full* side-wall grip on the pulley; carries heavier loads and sudden load increases without slippage—a big increase in drive efficiency—saving belt wear a n d also saving power!

The Concave Side is MORE IMPORTANT NOW Than Ever Before

Because the *sides* of a V-Belt are what actually *drive* the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley *directly* through the belt's side-walls.

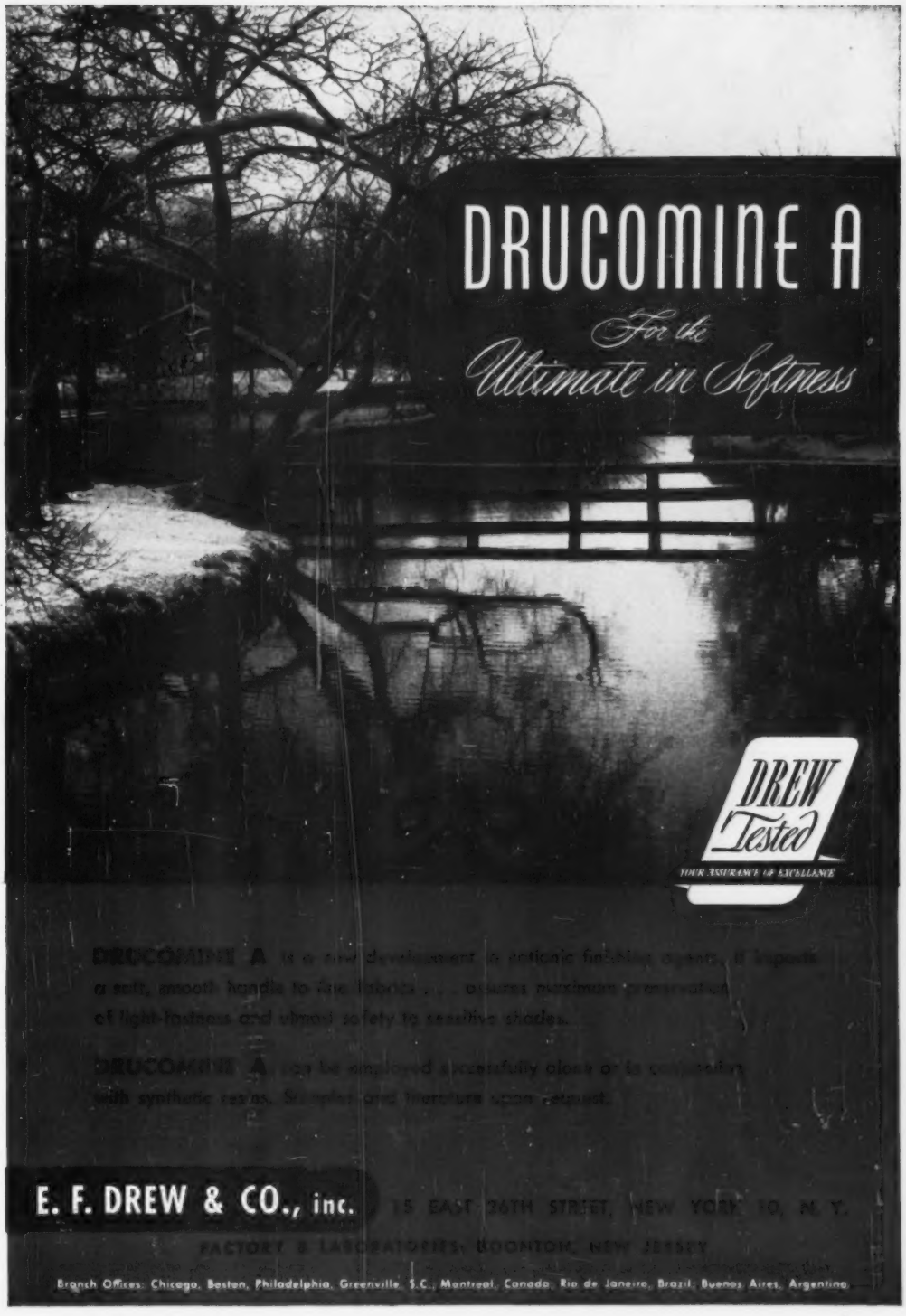
Now that Gates *SPECIALIZED* Research has m a d e available to you SUPER Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side naturally delivers greater savings today than ever before.

4B12

GATES VULCO ROPE DRIVES

IN ALL INDUSTRIAL CENTERS

THE GATES RUBBER COMPANY
DENVER, U.S.A.
"The World's Largest Makers of V-Belts"


DRUCOMINE A
For the
Ultimate in Softness
DREW
Tested
YOUR ASSURANCE OF EXCELLENCE
E. F. DREW & CO., inc.
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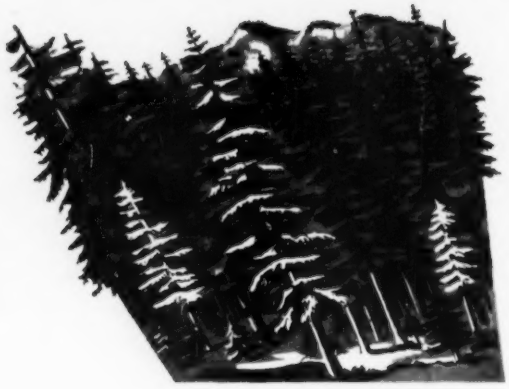
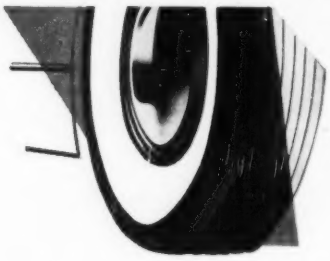
FACTORY & LABORATORIES, BOONTON, NEW JERSEY
Branch Offices: Chicago, Boston, Philadelphia, Greenville, S.C., Montreal, Canada, Rio de Janeiro, Brazil, Buenos Aires, Argentina



HOW TREES ARE MAKING TIRES LAST LONGER



OTHER USES FOR WOOD CELLULOSE

Our research staff has developed a number of types of highly purified wood cellulose to give best results in the manufacture of the many end products made from it.

For making viscose rayon yarn for textiles, we supply a product with the brand name, "HICOLOR"

Acetate fibers and yarns are made from a Rayonier product branded "RAYACETA"

Cellophane is made from still another type of purified wood cellulose—"RAYAMO"

Many research accomplishments have, over a period of years, improved the wearing qualities of automobile and truck tires.

None, perhaps, is more important than the adoption of viscose rayon tire cord and fabric. Highly purified cellulose —derived by chemically processing wood — is a basic raw material for making these strong, tough cords.

When synthetic rubber tires for heavy duty were introduced, use of viscose tire cord was essential to withstand heat and fatigue. Today, these high-strength yarns are used to lengthen the life of both natural and synthetic rubber tires —for passenger cars as well as for trucks and buses.

Rayonier does not make tires or tire cord. We do make the highly purified wood cellulose used by the textile industry in producing viscose rayon cords and fabrics for the tire manufacturers. This cellulose — known by the brand name "RAYOCORD"—was developed by our research staff specifically for this purpose.

RAYONIER

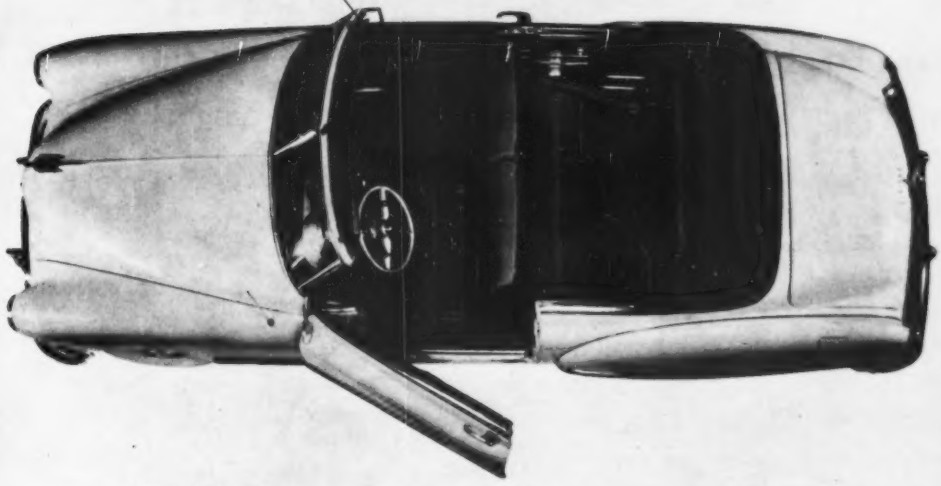
INCORPORATED

EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, New York • MILLS: Hoquiam, Port Angeles, Shelton, Washington; Fernandina, Florida

PRODUCER OF HIGHLY PURIFIED WOOD CELLULOSE for TEXTILES • TIRE CORD • CELLOPHANE • PLASTICS

SARAN

BY NATIONAL



distinctive! durable!—seat covers woven of SARAN!

They're fashioned for beauty and long life in the *basically different* textile material.

Saran weaves into these smart seat covers color and beauty that set new standards of durability. And saran is versatile! Monofilaments as fine as .005"—easy to work and easy to weave—are constantly inspiring new fabric trends. For fabrics of saran are decorative as they are durable, and practically carefree. Increasing demand for completely functional fabrics, assures added profit and prestige for those who *turn to saran.*

Saran by National

ODENTON • MARYLAND

New York: Empire State Building; Los Angeles: Bankers Building

SARAN

SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran and supplied to mills, weavers and other fabricators.*

FAST, COMPLETE, UNIFORM FIBRE PENETRATION

THOROUGH DIRT REMOVAL

FAST, THOROUGH RINSING

Olate

A SOFT, PLEASING HAND

MINIMUM STICKINESS OR TACKINESS

"STARS" IN FULLING AND SCOURING!

You'll probably never find a soap that can top Olate's performance in woolen or worsted fulling and scouring. In Olate's purity, low titer, and thin flake form, there's a combination of qualities made to order for handling these important operations efficiently, safely and economically.

Try Olate. Its reputation for turning out saleable fabrics is based upon many years of successful use in countless American textile mills.

PROCTER & GAMBLE

Olate –

safe and efficient for every textile soap usage!

Grime, smoke or soot from outside as well as dust or oil mist generated inside the mill, cost big money. That is why electronic air cleaning is so important to the textile industry. That is why so many textile mills now equipped with Raytheon Electronic Air cleaners, enjoy big advantages.

Think what a substantial reduction in soilage can mean to you in terms of profit. Figure the effect on your output, when dirt spoiled yarn or finished goods now going to rejects, come through as clean, first quality production. Check with Raytheon about what electronic air cleaning can save for you. Why not do it TODAY.

RAYTHEON PRECIPITATOR
ELECTRONIC AIR CLEANER

RAYTHEON

WALTHAM 54, MASSACHUSETTS

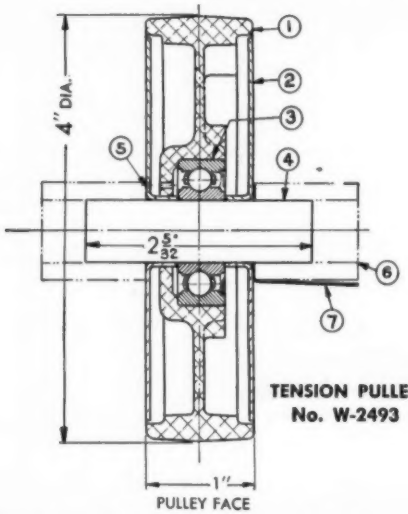
THEY *Eliminate* CHANGEOVER EXPENSE

For years the Textile Industry has wanted a ball bearing tension pulley to fit existing brackets, thus eliminating changeover expense. Now, SKF is meeting the most exacting demands with a strong, light, aluminum pulley, the rim of which is the only exposed rotating part. The large SKF Red Seal Ball Bearing in this pulley is sealed against all lint and fly, and is prelubricated to run without attention for 25,000 service hours. It saves power and maintenance costs. It assures uniform spindle speed . . . eliminates belt throwing. Send for Pamphlet No. 288. 6547

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

SKF

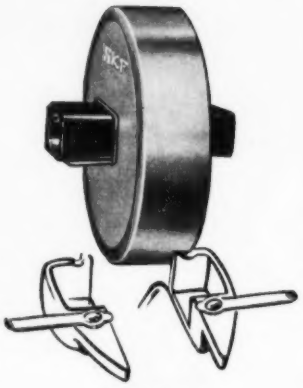
BALL BEARING TENSION PULLEYS



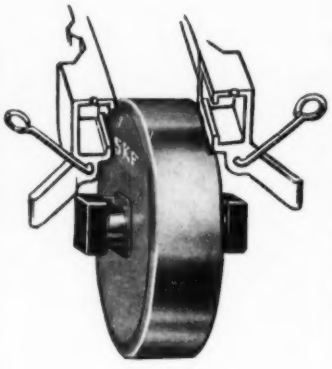
TENSION PULLEY
No. W-2493

1. Aluminum Pulley Shell
2. Aluminum Protective Shields
3. SKF Single Row—Deep Groove Ball Bearing with Red Seal
4. Steel Shaft
5. Re-Lubrication Hole
6. Supporting Blocks
7. Ground Clip

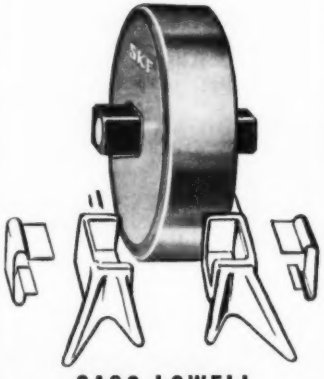
FOR
SPINNING FRAMES



WHITIN

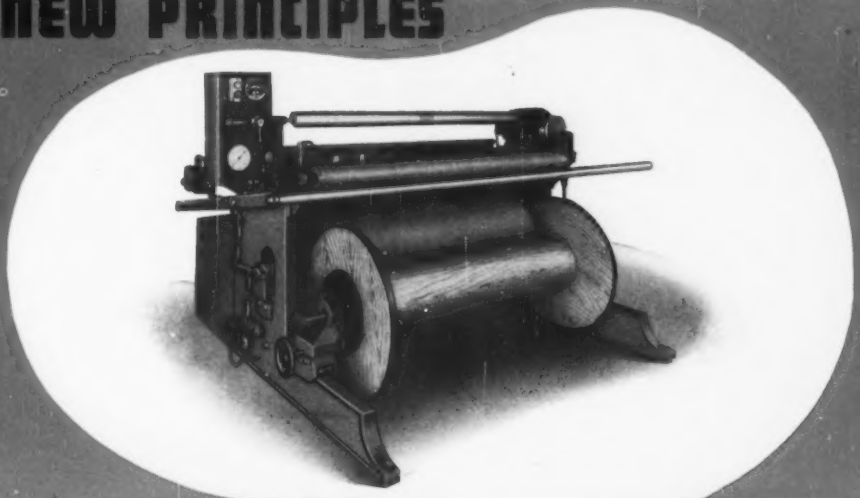


H. & B.



SACO-LOWELL

NEW DESIGN
NEW PRINCIPLES



NEW ALLEN "G" WARPER

Radically new warp density control. Perfect uniformity through hydraulic cylinder control. Operator can vary density at will. No more hard-shelled, soft-centered beams.

- **4 to 1 variable speed range by push button control.**
- **New winding method eliminates crossed ends.**
- **Front positive expansion comb.**
- **Rear spring expansion comb.**
- **Excellent for warping dye beams.**
- **A number of other features contributing to a new standard of warper operation.**

ADDING UP TO FASTER PRODUCTION OF HIGHER QUALITY WARPS

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Cotton and Rayon Beam Warpers

Ball Warping Machines

Narrow Fabric Warpers

Intermediate Dresser Stand for Woolen and Worsted Warp Yarns

Expansion Neck Reeds

All types of Expansion, Warper, Beamer and Slasher Combs

Replacement parts for Saco-Lowell and Entwistle Warpers

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General offices — 156 River Road
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Repres .ratives in all Textile Localities and all Principal Countries of the World

Good Warps are made on Good Beams

MISCO *Stainless Steel* CASTINGS

CORROSION RESISTING · HEAT RESISTING · WEAR RESISTING

Whenever You Need Stainless Steel Castings—Call on MISCO

MISCO offers textile manufacturers a dependable source for stainless steel castings in smooth cast condition or machined to a high degree of precision. We cast in various stainless steel analyses including hardenable grades as well as austenitic varieties such as 18-8 in its several modifications. The illustration shows typical examples of Misco stainless steel castings and finished products. We will gladly furnish you with information as to proper analysis, design, and application of stainless steel castings for machinery and processing equipment exposed to corrosion, heat and wear. Bulletins and engineering data sheets available upon request.

•

Let us know your needs.

Large and Medium Weight Stainless Steel Castings · Small Precision Castings · Centrifugal Castings

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Heat and Corrosion Resistant Alloys

One of the World's Pioneer Producers and Distributors of Heat and Corrosion Resisting Alloys

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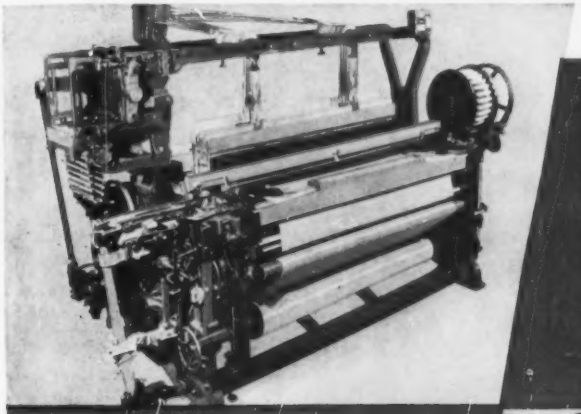
these new HUNT LOOMS

SPEED PRODUCTION! LOWER COSTS! IMPROVE QUALITY!



THE HUNT RAYON LOOM

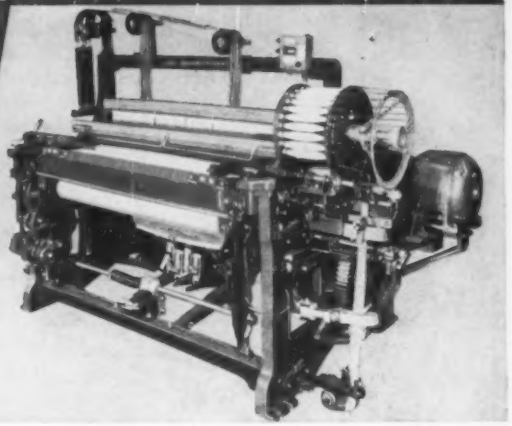
MODEL HX-100

Provides smooth, steady operation at higher speeds than other makes. Heavier loom sides and new improved type Hunt Spreader make the Hunt Rayon Loom more stable, with fewer breakdowns and reduced maintenance costs. Made to skirt to weave rayon and silk fabrics up to 85-inches wide.

THE HUNT COTTON LOOM

MODEL HX-1

This new, faster cotton loom is equipped with latest improved Hunt Spreader and heavier loom sides. More bearings, greater stability, and higher cloth output are reasons why the HX-1 Cotton Loom meets present day production needs more acceptably. Cloth widths up to 60-inches.



CONVERSION FEATURE—HX-100 Rayon Looms and HX-1 Cotton Looms are so constructed that at small expense they can be converted from rayon to cotton weaving, or vice-versa—from shallow loom to deep loom. Double bearing pads built into the loom sides permit moving crankshaft and camshaft assemblies to provide more harness space or more loom beam space. The Hunt Looms are so substantially built they can be used to weave practically any fabric. Both looms will accommodate loom beams up to 28-inch diameter heads.

Write today for illustrated folder giving complete details and specifications for HX-1 and HX-100 looms. Prices and delivery details on request.

HUNT MACHINE WORKS, Inc.

200 ACADEMY STREET TELEPHONE 2-5681

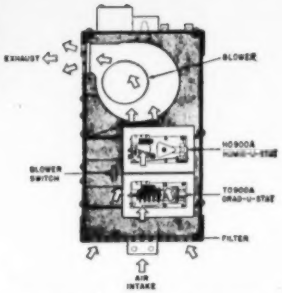
GREENVILLE, SOUTH CAROLINA

The Bahnson Company — *Air Conditioning Contractor* • P. L. Davidson — *Consulting Engineer*

THAT "little black box" on a column in the spinning room of a southern mill is an important adjunct to precise humidity control for the air conditioning system. It's a Honeywell Aspirator Box housing the humidity controller. Its function is to increase the speed of control response by continually drawing surrounding air over the controller detecting element. Any change in the conditioned air is instantly detected and immediately corrected. It thus holds the humidity at the desired value without cycling.

The Aspirator Box is one of the many exclusive features and refinements to be found in all textile mill air conditioning systems employing Honeywell Pneumatic Controls.

Take advantage of Honeywell's many years of experience in the design and development of pneumatic controls for industrial, commercial and domestic air conditioning. Call on our engineers to recommend the air conditioning control system best suited to your requirements. Minneapolis-Honeywell, Minneapolis 8, Minn. In Canada: Toronto 12, Ontario.

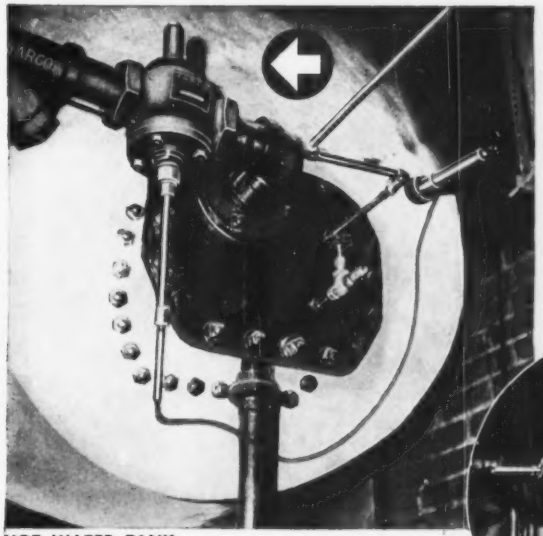


Cross-sectional Diagram of Honeywell Aspirator Box with Grad-U-Stat and Humid-U-Stat

•

The Brown Instrument Division of Minneapolis-Honeywell supplies the Textile Industry with instruments and complete systems for the measurement and control of textile processes. Each unit of every control system is accurately co-ordinated with operating conditions to increase efficiency and production, and assure economical operation. They include controls for Slashers, Size Level, Size Temperature, Cylinder Temperature, Moisture Content, Continuous Bleach, Dyeing, Size Cooking and Storage, and many others.

MINNEAPOLIS Honeywell *Advanced Pneumatic Controls* FOR AIR CONDITIONING BROWN



HOT WATER TANK

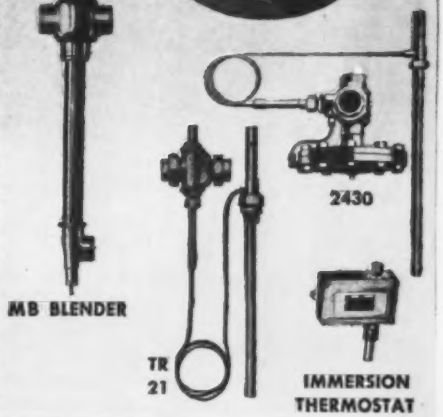
Why the Best HOT WATER SERVICE *Costs Less!*

It's not a luxury to have all hot water services Sarco Temperature Controlled. In fact, on most jobs, the controls pay for themselves in four ways.

1. Automatic control prevents overheating — fuel is saved
2. "Never too hot, never too cold," increases quality and quantity of output in heat processing
3. Blending of water for showers and wash basins increases hot water storage capacity
4. Everything works, 24 hours a day, without shut-downs or complaints.

In a factory, a service tank was controlled for twenty-four years at a cent a day. A mine saved hundreds of dollars by installing Sarco Blenders for showers, and dish washing.

What would Sarco Temperature Controls save in your plant? Why not ask the Sarco Man near you?



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SARCO
SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 8, ONTARIO

UNION PACIFIC

The Governor of Nevada *invites You*

STATE OF NEVADA
EXECUTIVE CHAMBER
CARSON CITY

VAIL PITTMAN
Governor

To American Industry:

With the rapid increase in population of the United States, combined with the decentralization of industry and the westward movement, Nevada is destined for great industrial expansion in the near future.

Contributing factors are:

1. Cheap hydro-electric energy
2. Raw materials, with emphasis on livestock and minerals (metallic and non-metallic)
3. Other natural resources
4. Favorable labor conditions because of friendly relationships between industry, management and labor
5. Ideal climate and exceptionally favorable working conditions
6. Nevada's tax structure:
   - No Inheritance Tax
   - No Income Tax
   - No Sales Tax
   - No Tax on Intangibles
7. Unsurpassed transportation facilities and close proximity to water transportation.

I respectfully suggest that you investigate the opportunities and advantages Nevada offers industry for investment and expansion.

Cordially yours,

Vail Pittman
Governor

Vail Pittman

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners

When a Mill takes Pride

in its knitting, consumers take pride in *wearing* the merchandise it produces. That's how sales promote sales and reputations are made. But good knitting always depends on good needles. Whatever type of knitting you do, rely on Torrington Needles—the precision-made quality needles that come in the famous Red and Green Box.

THE TORRINGTON COMPANY
TORRINGTON, CONN., U. S. A.
Established 1866

Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis • Toronto, Canada
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. In England: Broadgate House, 7-10 Eldon Street, London E. C. 2.

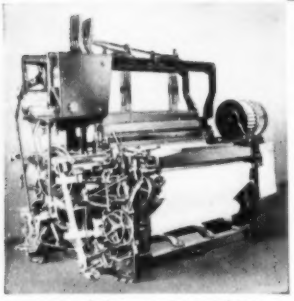
There's a TORRINGTON Needle for every type of Knitting!

Torrington Needle Bearings help

Spin Finer - Spool Faster - Weave Better

Saco-Lowell Shops have consistently improved roving and spinning frames to make finer quality yarn. Important mechanical advances include Torrington Needle Bearing Top Rolls and Spindles. In top rolls, smoother operation and greater stability have increased uniformity of production. In spindles, Needle Bearings have helped to extend tape life and reduce oil contamination.

Barber-Colman Automatic Spoolers operate at speeds from 900 to 1200 rpm. Under these high-speed winding conditions, Needle Bearings reduce tension-building "drag," precision-stealing wear. In a compact cheese arm design, one of many applications, Needle Bearings provide the high capacity to handle heavy cheeses . . . the smooth operation needed for low uniform tension.



Draper Model XD and Model XP High-Speed Looms depend for exact tension control—vital factor in fabric quality—upon such refinements as Needle Bearings in whip roll cam followers. In ten years of service, Needle Bearings have made an enviable record. Operating at 500 to 600 rpm, they have sustained precise action, eliminating the former need for frequent replacement of worn cam follower parts.

TORRINGTON NEEDLE BEARINGS can make many textile operations more precise, smoother and more economical . . . with no major design changes in equipment.

You can reduce vibration and "lost motion" due to wear: Needle Bearings have close internal clearance and unusually long life. You can increase speeds and handle resulting loads: Needle Bearings have the speed range and capacity needed. You can simplify lubrication and cleanliness problems: Needle Bearings retain lubricant effectively and limit oil consumption.

And Needle Bearings take up little space, simplify designs, speed fabrication and assembly. Work with our engineers on details—small details that can improve operation of your equipment . . . economically. Write us today.

THE TORRINGTON COMPANY

Torrington, Conn. South Bend 21, Ind.

District Offices and Distributors in Principal Cities

TORRINGTON NEEDLE BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

In today's new, faster, more efficient

textile mill equipment . . . *it's*

Stainless Steel construction

HAVE you noticed how generously Stainless Steel is used, and what a key role it is playing, in the high speed, mechanized equipment that's coming on the market?

It's not because Stainless is cheap—for it isn't. It's because Stainless does so much more, does it so much better and lasts so much longer that leading manufacturers and processors are building equipment of every kind with Stainless Steel in every vital part. They've found out that there's no better way to ensure optimum performance at minimum cost. They know that Stainless construction pays-off, BIG.

U·S·S Stainless Steel pays the *biggest* returns, for two reasons. First, this service-tested, *perfected* Stainless is available in a complete range of analyses to meet every variety of operating conditions. And, second, its uniformity in composition, in finish and in fabricating qualities allows the widest latitude in design and permits the use of the most advanced manufacturing techniques.

You will find the cooperation of our engineers invaluable in determining what type of U·S·S Stainless will do the best, most efficient job for you. Write for their assistance—outlining the problem you have in mind—to United States Steel Subsidiaries, Room 2045 Carnegie Building, Pittsburgh, Pa.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO
CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
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U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

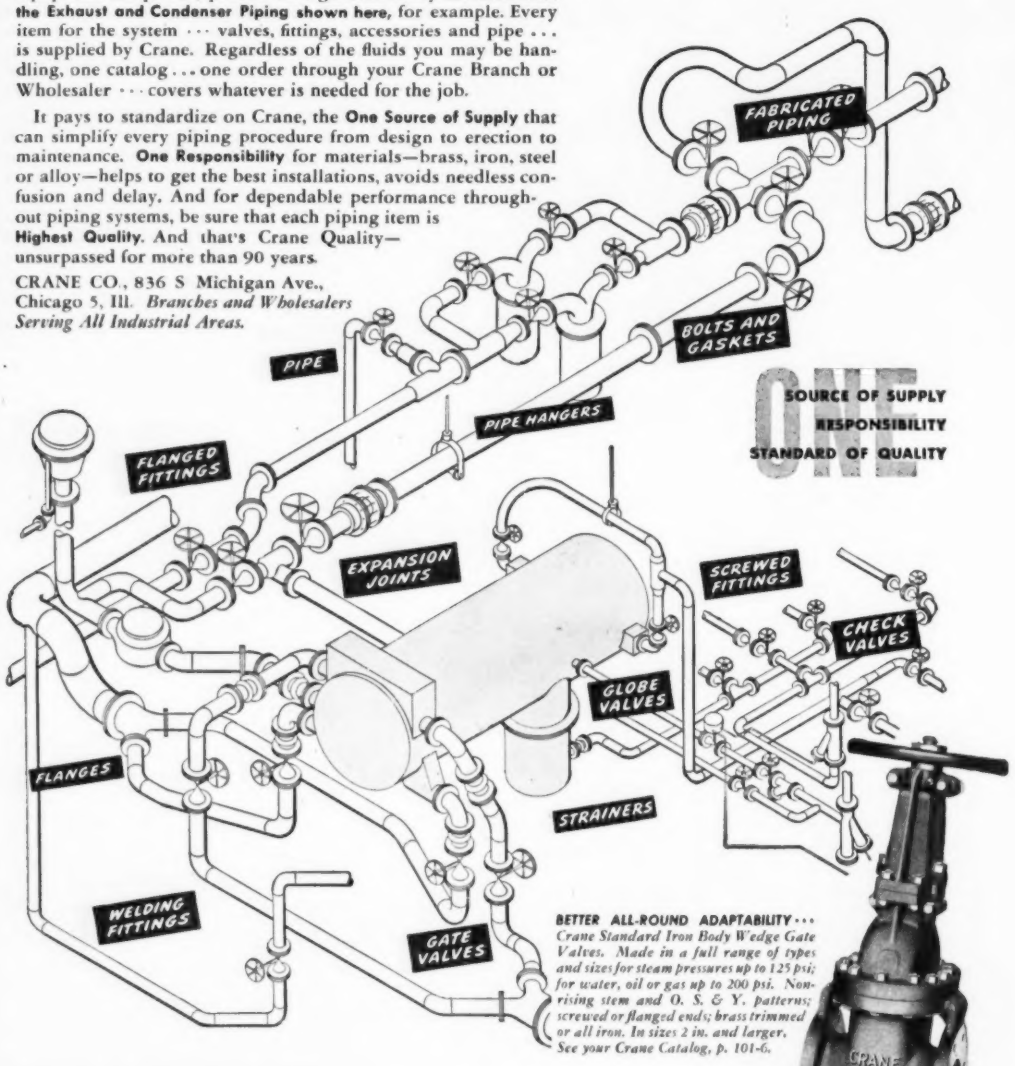
UNITED STATES STEEL

Complete Piping Materials Service ... from one complete line

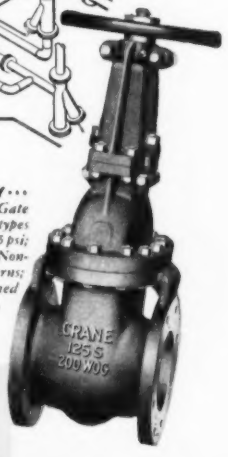
That's the Crane line—the world's most complete source of piping equipment for power, process and general utility services. **Take the Exhaust and Condenser Piping shown here,** for example. Every item for the system ··· valves, fittings, accessories and pipe ... is supplied by Crane. Regardless of the fluids you may be handling, one catalog ... one order through your Crane Branch or Wholesaler ··· covers whatever is needed for the job.

It pays to standardize on Crane, the **One Source of Supply** that can simplify every piping procedure from design to erection to maintenance. **One Responsibility** for materials—brass, iron, steel or alloy—helps to get the best installations, avoids needless confusion and delay. And for dependable performance throughout piping systems, be sure that each piping item is **Highest Quality.** And that's Crane Quality—unsurpassed for more than 90 years.

CRANE CO., 836 S Michigan Ave., Chicago 5, Ill. *Branches and Wholesalers Serving All Industrial Areas.*



BETTER ALL-ROUND ADAPTABILITY ··· *Crane Standard Iron Body Wedge Gate Valves. Made in a full range of types and sizes for steam pressures up to 125 psi; for water, oil or gas up to 200 psi. Non-rising stem and O. S. & Y. patterns; screwed or flanged ends; brass trimmed or all iron. In sizes 2 in. and larger. See your Crane Catalog, p. 101-6.*



EVERYTHING FROM ...

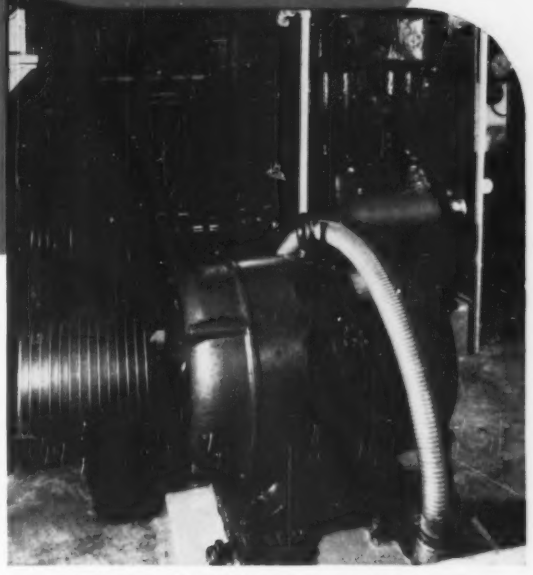
VALVES · FITTINGS
PIPE · PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

The Right Century Motor Assures Maximum Performance, Long Service Life

For Every Air Heating, Cooling and Circulating Need



100 HP, Century Type SCH, Squirrel Cage, 3 phase motor driving a refrigeration compressor for temperature control.

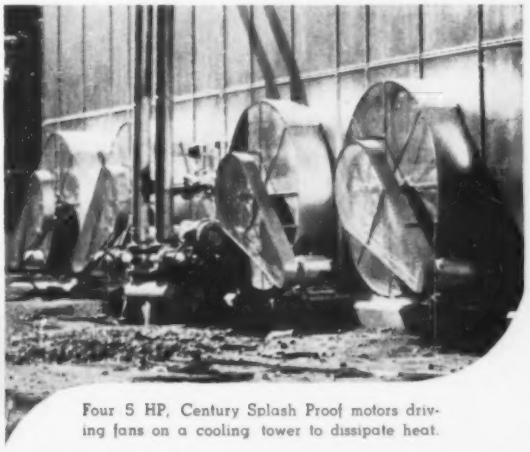
Century's many types and kinds of motors completely blanket the power requirements for the various kinds of equipment used in air conditioning installations.

Century motors are available in open rated drip proof, splash proof, totally enclosed fan cooled and explosion-proof frames to meet the needs of any kind of surrounding atmosphere, whether indoors or outdoors on a cooling tower.

Century builds a complete line of alternating and direct current electric motors in a wide range of kinds and types, in sizes from 1/6 to 400 horsepower.

Specify Century motors for all of your electric power requirements.

Popular types and standard ratings are generally available from factory and branch office stocks.



Four 5 HP, Century Splash Proof motors driving fans on a cooling tower to dissipate heat.

-615

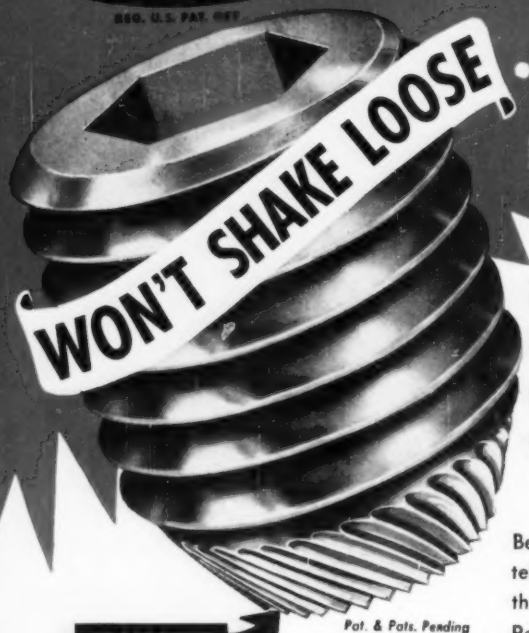
Century C MOTORS

CENTURY ELECTRIC COMPANY • 1806 Pine St., St. Louis 3, Mo.

Offices and Stock Points in Principal Cities

UNBRAKO

REG. U.S. PAT. OFF.



Pat. & Pats. Pending

SELF-LOCKING
KNURLED
CUP POINT

... proved by

EXPLANATION OF VIBRATION TESTS DEMONSTRATING THE HOLDING POWERS OF DIFFERENT TYPES OF "UNBRAKO" SOCKET SET SCREWS

Better than words, the graph of actual vibration tests quickly tells the story of the exceptional "HOLDING POWER" of the "Unbrako" Self-Locking Set Screw with the Knurled Cup Point . . . *"the screw that won't shake loose."*

Vertically, the graph is divided into increments of 30 minutes. Each bar—black for Plain Cup Point and red for Knurled Cup Point—represents a screw tested and the number of minutes at which it loosened. *The height of each black bar, therefore, is a direct measure of the length of time before the plain pointed screw shook loose.* The Self-Locking Knurled Cup Pointed Screws—indicated by the red bars—were still tight at 300 minutes.

All screws were tested under identical conditions. Rate of vibration—1750 cycles per minute . . . duration of test—until screw shook loose or tests were discontinued.

Analyzing the graph and comparing the two types of screws, we find that the most favorable test of the Plain Cup Point shows a failure at 10 minutes and 40 seconds. *No Knurled Cup Point shows signs of loosening at 300 minutes—more than 28 times the "HOLDING POWER" of the Plain Cup Point—a tremendous superiority . . . as proven by actual tests and use.*

The "Unbrako" Self-Locking Set Screws with the Knurled Cup Point can be used over and over again.

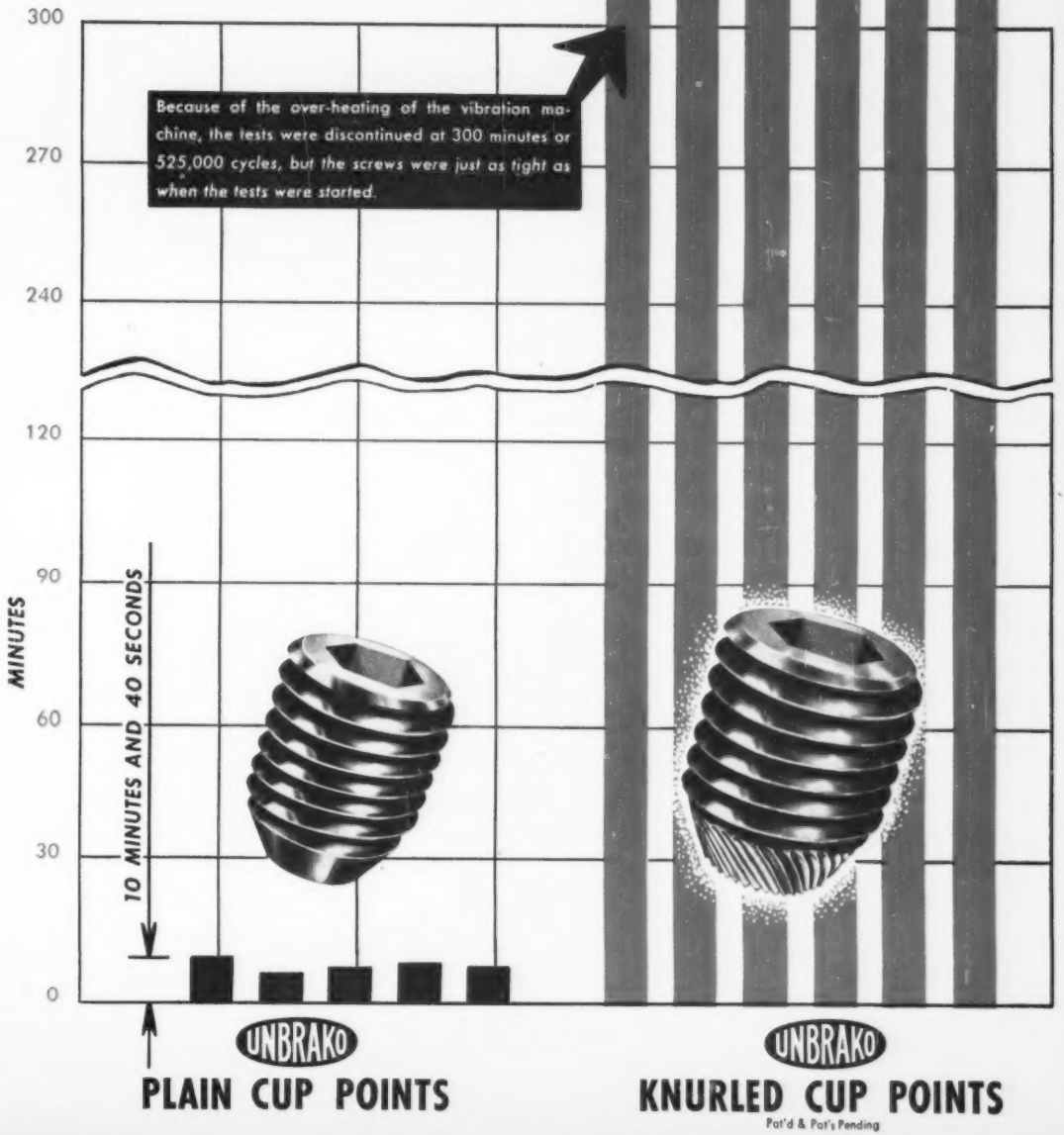
OVER 45 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

Box 571, JENKINTOWN, PENNSYLVANIA

BRANCHES: CHICAGO DETROIT ST. LOUIS SAN FRANCISCO

actual tests



Corn Products Refining Company

presents

fashion accents crisp

At Waldorf-Astoria Hotel
February 2, 1949,

this tremendous fashion show ushers in the crisp look of starched cottons as the dominant fashion trend of 1949. This great show is sponsored by the makers of LINIT* Starch for the home and starches for the textile industry.

In The Audience—fashion and society editors, leaders in the textile, dress manufacturing and retail fields . . . big names in the business, theatrical and social world.

Styled by America's Foremost Designers

Such great names as Miss L. Brogan, Dorothy Cox, Ceil Chapman (pictures above), and Jane Derby, Nellie Don, Dorian, Tina Leser, Claire McCardell, Nettie Rosenstein, Carolyn Schnurer, Herbert Sondheim, Pauline Trigere, Thea Tewi, Joset Walker . . . master-stylists in cottons!

Modeled by America's Most Gorgeous Girls—
the pick of New York's most famous model agencies!

'49's most publicized fashion show stars an all-cotton cast!

Angled for Top Radio, Newspaper, Magazine, Newsreel Billing The Country Over!...Television Too!

"Fashion Accents Crisp" is already being featured in the newspapers . . . in nationally-read columns . . . in coast-to-coast broadcasts . . . it's the talk of the whole fashion world . . . *and that's just the warm-up!* "Fashion Accents Crisp" is designed to make fashion history . . . and sales records for *starchable* COTTON Textiles.

Plus a Powerful 16-Magazine Advertising Campaign! Through 1949 as through 1948 . . . smashing full-color ads in 16 leading national magazines totalling 34,000,000 circulation . . . will sell Mrs. and Miss America on crisp fashions in cottons . . . kept crisp with LINIT Starch!

*LINIT is a registered trade-mark of Corn Products Refining Company, New York, N. Y.

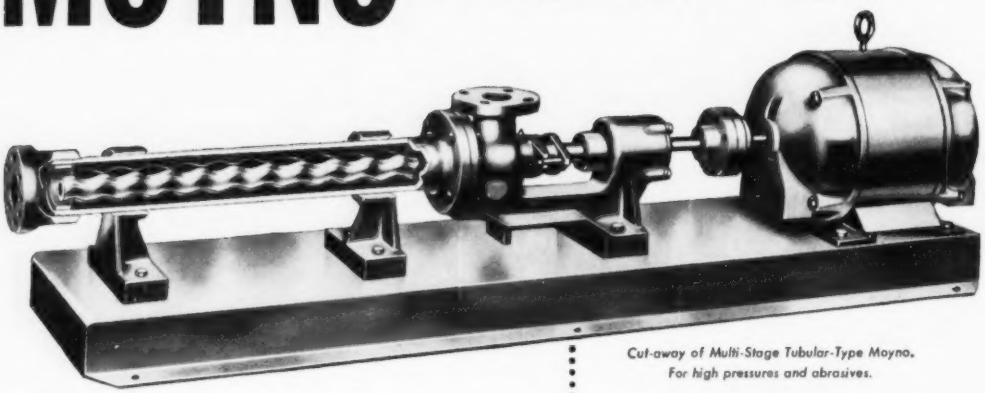
Sponsored by

Corn Products Sales Co.

17 Battery Place **New York 4, N. Y.**

STARCHES FOR THE TEXTILE INDUSTRY

MOYNO THE CHOICE OF MEN WHO WANT TO FORGET ABOUT PUMPS



Cut-away of Multi-Stage Tubular-Type Moyno. For high pressures and abrasives.

The experience of thousands of Moyno users makes this a good rule to follow: if you want *dependable* pumping, get a Moyno. Robbins & Myers Moyno "Progressing-Cavity" Pumps move virtually *anything* that will push through a pipe—solvents, cellulose acetate, starch sizing, sludges—everything from volatile liquids to non-pourable pastes. And they *keep on pumping* when others fail.

PROVED BY RESULTS

Moynos are in everyday use in *many* textile plants, wherever materials require pumps that *stand up.* There's nothing like the Moyno for "impossible" conditions of viscosity, corrosion, abrasion, and solids in suspension. Moynos save their cost over and over again in dependable performance. Let them save *you* money, too.

Free Book tells how...

A free 16-page booklet, "A Turn for the Better," explains "progressing-cavity" pumping; gives pressures, capacities, uses. Write for it—learn for yourself how Moynos are better. Just ask for Book No. T-22W.

R & M MOYNO® PROGRESSING-CAVITY PUMP

No other pump is like it!

ONLY ONE MOVING PART. A single-helical rotor turns in a double-helical stator. No pistons, no valves, no high-speed impellers.

NO CONCENTRATED WEAR. Continuous, *ever-changing* seal lines spread wear evenly over all surfaces.

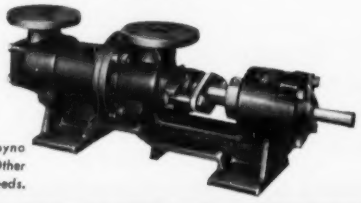
NO PULSATION. Moyno pumping is constant—delivers smooth, continuous output at pressures to 1000 p.s.i. There are no flow restrictions, no internal obstructions to cause high turbulence.

SELF-PRIMING. Moyno "progressing-cavity" pumping develops a high vacuum, requires no priming.

REVERSIBLE. Moynos work equally well in either direction. There are no troublesome end seals.

CANNOT CONTAMINATE. Bearings are *outside* the pumping compartment.

LOW MAINTENANCE. Moynos are long-lived, low-cost performers. They're easily and quickly dismantled for cleaning; seldom need more than routine maintenance.



The "Standard" Moyno for general service. Other types for specific needs.

ROBBINS & MYERS · INC. MOYNO PUMP DIVISION
Springfield 99, Ohio • Brantford, Ontario

MOTORS • HOISTS • CRANES • FANS • MOYNO PUMPS • FOUNDED 1878

The Horse and Wagon Fund Bought These Trucks

Last night the truckers' association gave a testimonial dinner for Bert Price. You'd never think he owned a fleet of two hundred truck-trailers, covering a half dozen states with freight lines. Bert, jovial and graying, had a pleased twinkle in his eyes when he stood up to speak. Bert started with a horse and wagon and had been hauling freight and merchandise for more than forty years. They asked him about the secret behind his successful business.

"Guess you might say it was my *new horse and wagon fund* that was responsible," he said, smiling. "I always kept a separate fund for new hauling equipment. My competitors heard about it and kidded me from time to time.

"When the horse and wagon went out in favor of the motor car and truck, I still kept putting away money in my *new horse and wagon fund*. When it became necessary to replace worn-out equipment, the money needed was there ready for me. I've still got my *new horse and wagon fund*. And those competitors who used to kid me—well, I bought them out when they didn't have the money to replace their equipment."

Take a look at your last Financial Statement. Do you really have the money that you charged off for Depreciation in the past years? Is it part of your "current" assets . . . or is it earmarked as a separate fund under "fixed" assets?

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.

Smoothness where it counts

Textile's rigid quality controls are responsible for attaining a mirror-like finish in Textile Spring-Beard Needles so that yarns can go around the needle end smoothly and easily. Every stage in the production sequence from the selection of proper steel to final packaging is carefully controlled to bring you finer, better knitting with Textile Spring-Beard Needles.

A special steel formula, superior tempering and quality controls—automatic and electronic—all contribute to producing precision, longer-lasting Textile Spring-Beard Needles for your needle bars. You'll see the results in smoother, improved knitting.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Learn these Definitions

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

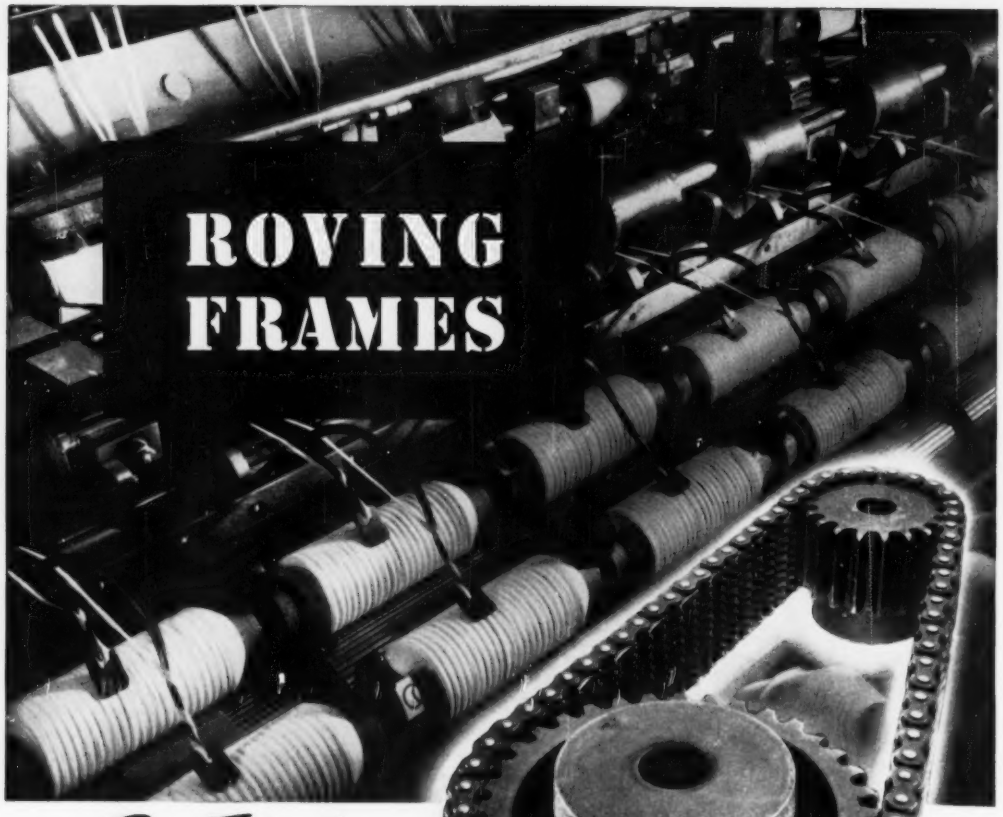
● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee Eastman Corporation

SUBSIDIARY OF EASTMAN KODAK COMPANY

KINGSPORT, TENNESSEE



Give Wool a "Uniform Twist" with

WHITNEY SILENT CHAIN DRIVE

Smooth, uniform power transmission is a must in giving certain types of yarn the right twist. And the surest way to maintain product uniformity is to use Whitney Silent Chain Drives on your Textile Equipment.

The *positive* grip of Whitney Chains transmits constant motor speed. These chains deliver full power without friction loss or slippage from power source to driven mechanisms. In addition, Whitney Chains absorb shock loads without breakage . . . are easy to install . . . give long lived service with minimum maintenance.

As a manufacturer of textile machinery, you can add to product reputation and customer satisfaction by incorporating Whitney Chains in your designs. Or if you are a textile product producer, Whitney Chain Drives will help you maintain product uniformity and reduce costs with their long operating life. Manufacturer or producer—it will pay you to *standardize* on Whitney Chain and accurately Cut Tooth Sprockets . . . the *all steel drives.* Write for information.

Whitney Chain & Mfg. Company
DIVISION OF WHITNEY-HANSON INDUSTRIES, INC.
211 Hamilton Street, Hartford 2, Conn.

GOOD NEWS IF YOU ARE DECATING HARD TO COOL FABRICS

Van Vlaanderen introduces a double pump machine to reduce decating time of hard to cool fabrics.

The Van Vlaanderen single cylinder, single pump decating machine has always produced more yardage and better quality than any other single or double cylinder decater.

Now this top performance has been improved. Cooling off time is materially reduced by the new double pump decater. This advantage is of special interest to those decating fabrics requiring longer time in cooling. For those, at present, decating goods that require less time the machine can be supplied with one pump and the other pump can be installed later if needed. Many of our recent machines now in service can be equipped with the second pump.

Write for full specifications and price.

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics.

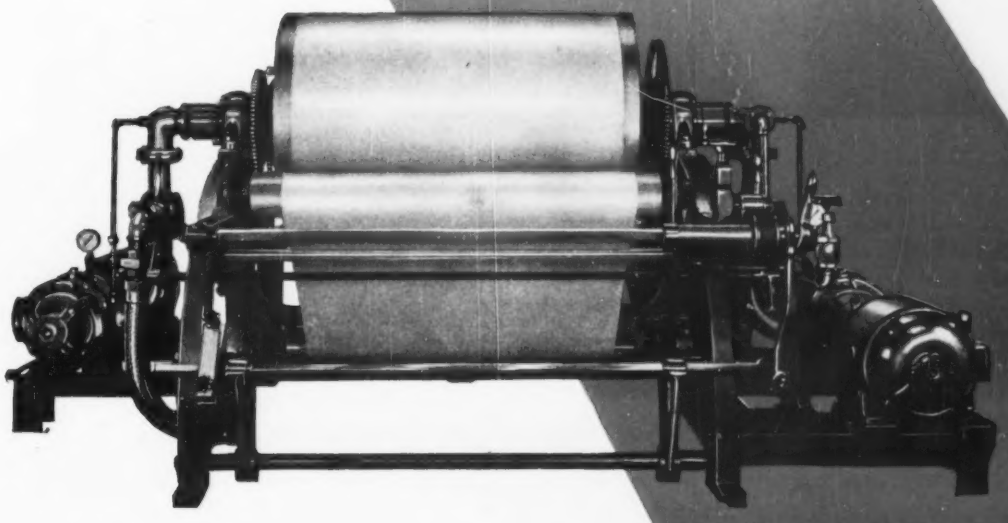
BETTER DECATER BLANKETS

Immediate Delivery

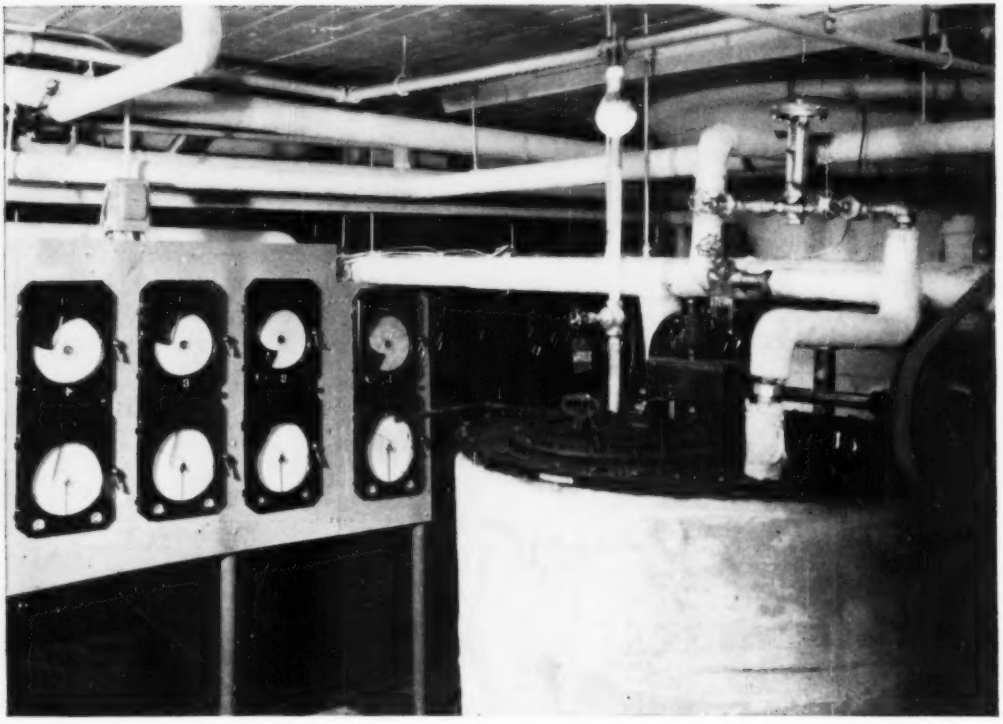
New improved superior double face sateen blankets now stocked in 52", 56", and 72" widths and lengths from 400 to 1000 yards.

Now used on hundreds of decaters, this blanket gives longer service, better quality work and better production.

Send for a sample of this blanket. Telephone, telegraph or write now.



ONE OF WORLD'S LARGEST UNIFORM SLASHING

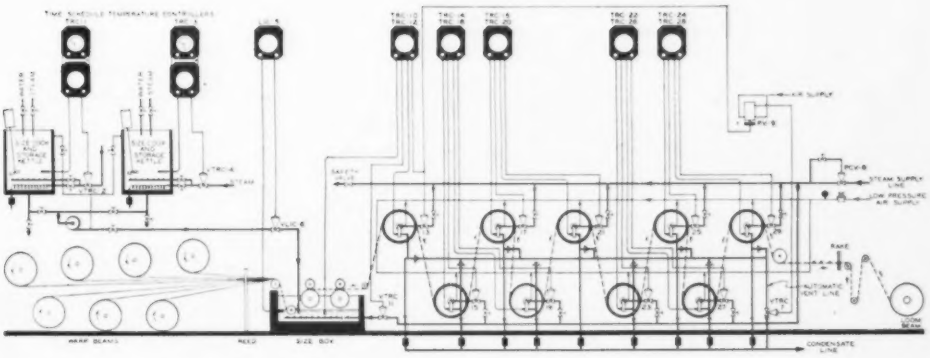


ABOVE is one of a battery of 8 size cooking and storage kettles at Dan River Mills, Danville, Va., one of the world's largest textile mills. Each kettle is controlled by a Taylor Fulscope Time Schedule Controller. Each batch of size is cooked according to a predetermined time-temperature schedule. The Time Schedule Controller precisely and automatically controls the rate of rise, assuring proper gelatinization of the starch granules. Result—smooth, uniform size.

All the operator has to do is load the kettle. Then he pushes a start button and the Fulscope takes complete control—positioning the steam valve during controlled rate of rise, timing and controlling the hold period near the boil. The flash of a red signal tells the operator when the cook has ended. Then steam is automatically shut off and size is ready for use.

That's just the beginning. The drawing above (right) shows how Taylor Control is contributing to uniformity throughout Dan River's complete slashing operation.

TEXTILE MILLS ASSURES WITH TAYLOR CONTROL



Starting at the size box: Fulscope Temperature Controller automatically maintains size box temperature. Constant size box level is maintained for proper impregnation of yarn by a Fulscope Indicating Controller.

Next, that row of Fulscope Temperature Controllers (top) maintains the precise cylinder temperature needed for uniform drying. Cylinders also are automatically vented. All this adds up to five ways Taylor Automatic Slasher Control is helping Dan River Mills keep quality up and costs down—*and can do the same for you:*

1. ***Savings in steam and materials in size preparation.***
2. ***More efficient utilization of size cooking equipment.***
3. ***Steam savings in slasher drying.***
4. ***More uniformly sized warp yarn.***
5. ***Higher weave room efficiency.***

Ask your Taylor Field Engineer for complete information on our control systems for all four slashing steps: *size cooking temperature control, storage kettle temperature control, size box level control,* and finally, *slasher cylinder control.* Or write Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

Taylor Instruments

MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY

BETTER SERVICE to CUSTOMERS

Comes with the Speedier Production of the

EDMOS High Speed TYPE EEM

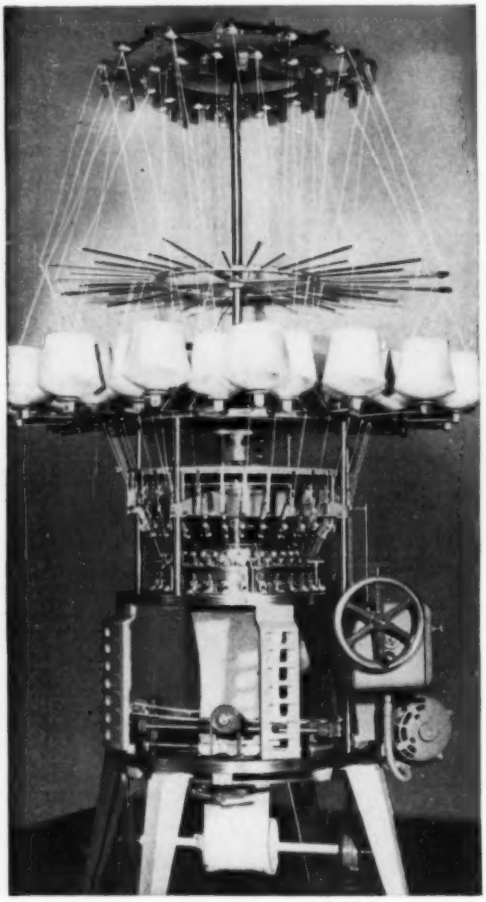
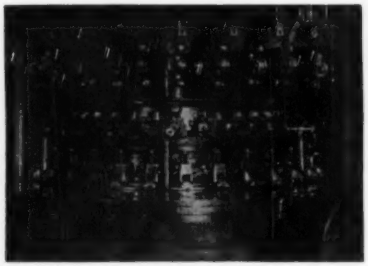


Illustration: Model Shown Is 20" - 30 Feeds

The high knitting requirements your customers demand call for the finest machines to do your work. Look at EDMOS Type EEM Super Multi Feed Plain Rib Body Machine—see it in action at the EDMOS plant—and you'll agree it has just what you need: UTILITY—designed for Swiss Rib, yet ideal for "T" shirt and polo shirt fabrics. HIGH PRODUCTIVITY: Type EEM has 1½ feeds per diameter inch; produces up to 4 times more work. ECONOMY: Simplicity of parts, easy to operate and maintain. Available for prompt delivery.



Complete Size Range:

12"—18 feeds	18"—27 feeds
13"—19 feeds	19"—28 feeds
14"—21 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
24"—36 feeds	

Famous EDMOS Features:

Simplified camming system both on cylinder and dial

Gear driven dial; Oversized dial shaft

Adjustable motor mount

Accessibility; Interchangeability

EDMOS PRODUCTS CORP., 13 Christopher Ave., Bklyn 12, N. Y.

REG. U. S. PAT. OFF.

H&D BOXES

HINDE & DAUCH

Authority on Packaging

Executive Offices: 4901 Decatur St. • Sandusky, O.

FACTORIES IN:

Baltimore 13, Md. • Buffalo 6, N. Y. • Chatham, Ontario
Chicago 32, Illinois • Cleveland 2, Ohio • Detroit 27, Mich. • Gloucester, N. J. • Hoboken, N. J. • Kansas City 19, Kansas • Lenoir, N. C. • Montreal, Quebec
Richmond 12, Va. • St. Louis 15, Mo. • Sandusky, Ohio
Toronto, Ontario • Watertown, Mass.

Even chalk responds to the magic touch of H & D packaging—of making the package a part of the product. This shelf package, several of which are packed in a master shipping box, affords adequate protection for a delicate, brittle substance. Distinctive one-color printing on a white surface is outstanding in eye appeal, promotes the brand name, commands customer attention. Tuck-in tab increases after-use convenience.

The Package Prompts the Purchase

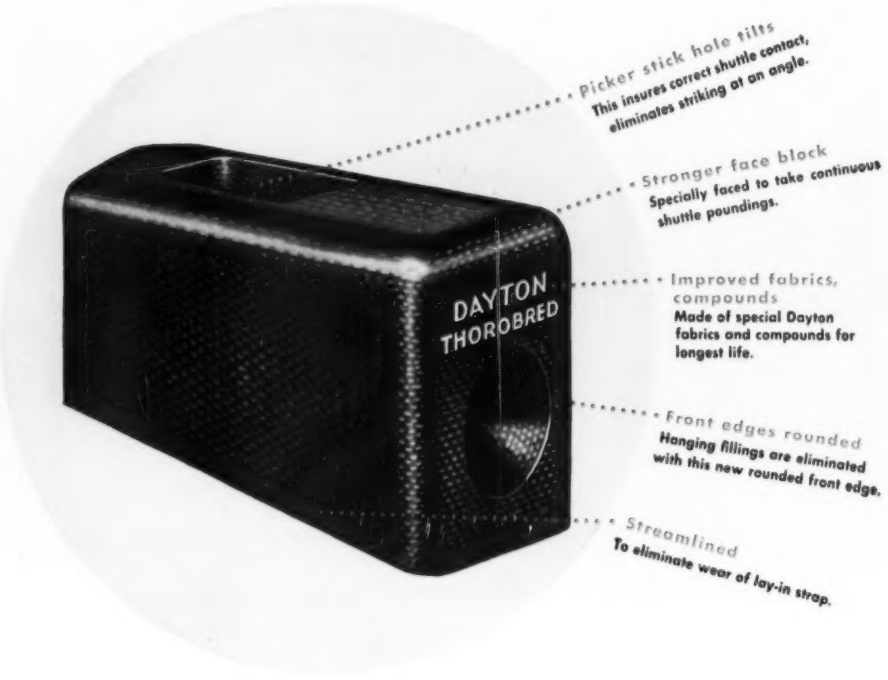
Because this H & D box reduces packaging costs approximately 50% in addition to providing better product protection than the previous method of packaging, it is definitely part of the product. The economies it effects are felt by manufacturer, dealer and consumer. The box, developed in the H & D Package Laboratory, is *engineered* to the product, with no excess weight or bulk.

This corrugated H & D Prepak* is a major factor in the sales success of the product. The box is factory-packed to eliminate repacking and wrapping by the retailer, thereby reducing sales costs. The Prepak* is also a colorful counter or window display that stops traffic and increases sales. It is printed in 2 colors on lawn-green linen finish corrugated board. If your product can be packed in "units" or "sets," consider H & D Prepak*—the most economical way to pack *and* sell retail merchandise.

*REG. U. S. PAT. OFF.

Reduce maintenance costs . . . get better service from this

NEW *improved* PICKER


DAYTON
THOROBRED
Picker stick hole tilts
This insures correct shuttle contact, eliminates striking at an angle.
Stronger face block
Specially faced to take continuous shuttle poundings.
Improved fabrics, compounds
Made of special Dayton fabrics and compounds for longest life.
Front edges rounded
Hanging fillings are eliminated with this new rounded front edge.
Streamlined
To eliminate wear of lay-in strap.

On today's fastest looms, Dayton Thorobred Loop Pickers perform with highest efficiency at less cost. Made of special fabrics and synthetic rubber compounded with unusual resilience, Dayton Pickers are molded in one-piece, super-strong units that give increased service, longer life. Designed with a flared bottom, Dayton Pickers are built for easy application. There is nothing to break, nothing to expand. Their design includes a specially patented symmetrical loop construction which anchors the picker onto the stick and holds it in the correct contact position indefinitely. If you aren't using Dayton Pickers, it will pay you to get the complete story. Write Dayton Rubber, Dayton, Ohio, or *Textile Division—Main Sales Office, Woodside Bldg., Greenville, South Carolina.*

Dayton Rubber

Presenting

TEXTILE WORLD'S FINISHING SYMBOLS

HIGHLIGHTS: *TEXTILE WORLD, aided by panel of experts, has developed code of symbols to represent finishing equipment — Adoption would make graphic records broadly and accurately understood — Avoiding errors in records will cut costs — System can aid in manufacture, engineering, and research — Alphabetical arrangement makes for ease of use.*

RECORDS BY SYMBOLS are in a language universally understood. Adoption by the industry of TEXTILE WORLD'S Finishing Symbols presented on the four pages which follow will give finishers and others a handy means for avoiding existing confusion in recording detail in manufacturing, engineering, and research departments. They will at once be understood by other technicians in other departments or plants.

The story behind this new TEXTILE WORLD system clarifies its purposes, uses, and authority. Some months ago a series of sketches were submitted to us for advice as to their accuracy and usefulness. These drawings, which were prepared by engineers of the General Electric Co., showed a variety of textile-finishing machines as well as auxiliary equipment. The company had prepared these diagrams because of a long-felt need on its part for a standard system of formalized symbols representing various textile machines for use in schematic drawings, along the lines of the symbols used in the electrical and electronic fields.

Since one company felt the need for standardization in the method of representing the textile industry's machines, we decided to enlarge on the idea for use by a larger segment of the industry.

Following this up, we submitted to leading machine manufacturers, chemists, and engineers the symbols proposed by General Electric. They were asked, first, to give their thoughts on whether or not a standard set of symbols would be of value; second, to add to and suggest revisions of the original list; and third, to express their ideas as to the best way the symbols should be drawn.

The dozen or more individuals and companies who received these symbols were unanimous as to the value of establishing such standards. All were most helpful in supplying additions to the original series. From the comments received and from the way the added drawings were made, it was evident that the symbols should not be of a too abstract type, but should bear some factual resemblance to the pieces of equipment they were designed to represent. Simplicity was also stressed, so that anyone not a draftsman could reproduce them quickly and easily.

Bearing these recommendations in mind, we offer this dictionary of symbols for textile-finishing equipment. It is realized that the list is not complete and that some of the symbols may require revision. Further advice is welcomed.

We wish to thank the following companies and individuals for their most helpful ideas and the many symbols they added to the original series:

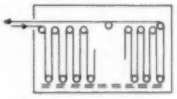
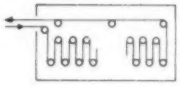
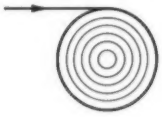
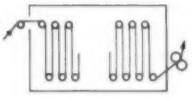
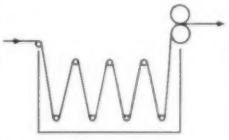
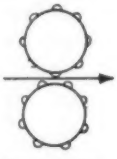
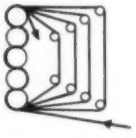
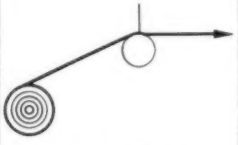
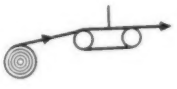
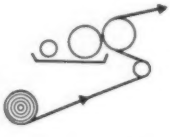
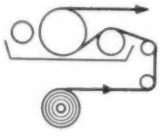
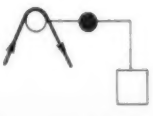
Elliot Broadbent, Glenlyon Print Works, Phillipsdale, R. I.
Sherman Converse, Graniteville Co., Graniteville, S. C.
Miles A. Dahlen, E. I. du Pont de Nemours & Co., Wilmington, Del.
M. T. Fleming, Proctor & Schwartz, Inc., Philadelphia, Pa.
Henry D. Grimes, American Woolen Co., Andover, Mass.
B. M. Jones, Rodney Hunt Machine Co., Orange, Mass.
R. R. Lang, General Electric Co., Schenectady, N. Y.
Edward S. Pierce, H. W. Butterworth & Sons Co., Philadelphia, Pa.
F. S. Richardson, Waldrich Co., Delawanna, N. J.
R. E. Rupp, Pacific Mills, Lyman, S. C.
G. H. Schuler, E. I. du Pont de Nemours & Co., Wilmington, Del.
T. R. Smith, Wiscassett Mills Co., Albemarle, N. C.
Hobart Souther, Cone Mills, Greensboro, N. C.
L. C. Tolleson, Union Bleachery, Greenville, S. C.
S. H. Williams, General Dyestuff Corp., Charlotte, N. C.

Compiled by C. NORRIS RABOLD

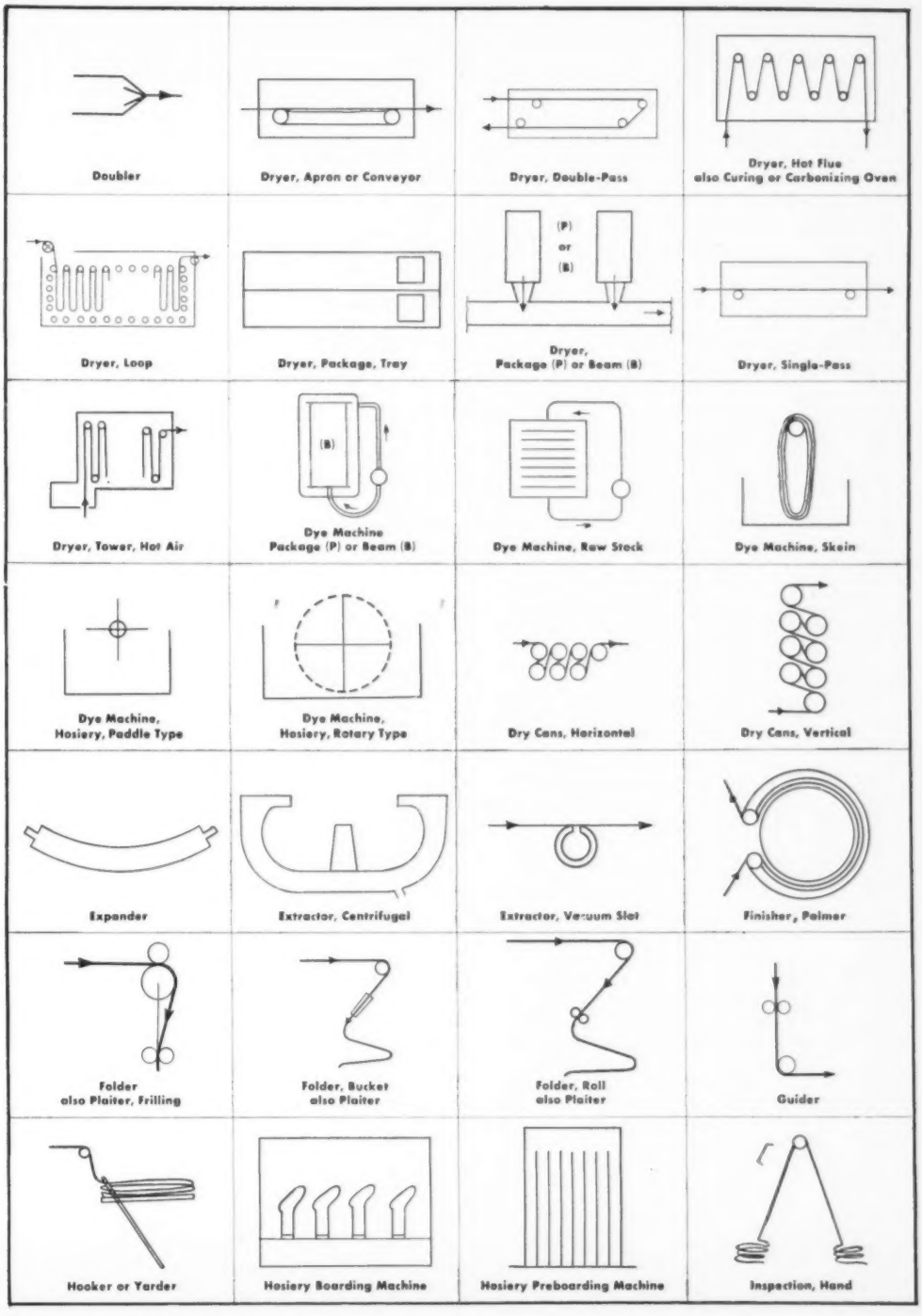
Mr. Rabold is a consulting editor on the staff of TEXTILE WORLD. He is also Chemical Research and Development Director of Erwin Cotton Mills Co., Cooleemee, N. C., and a vice president of American Association of Textile Chemists & Colorists.

TEXTILE WORLD'S FINISHING SYMBOLS

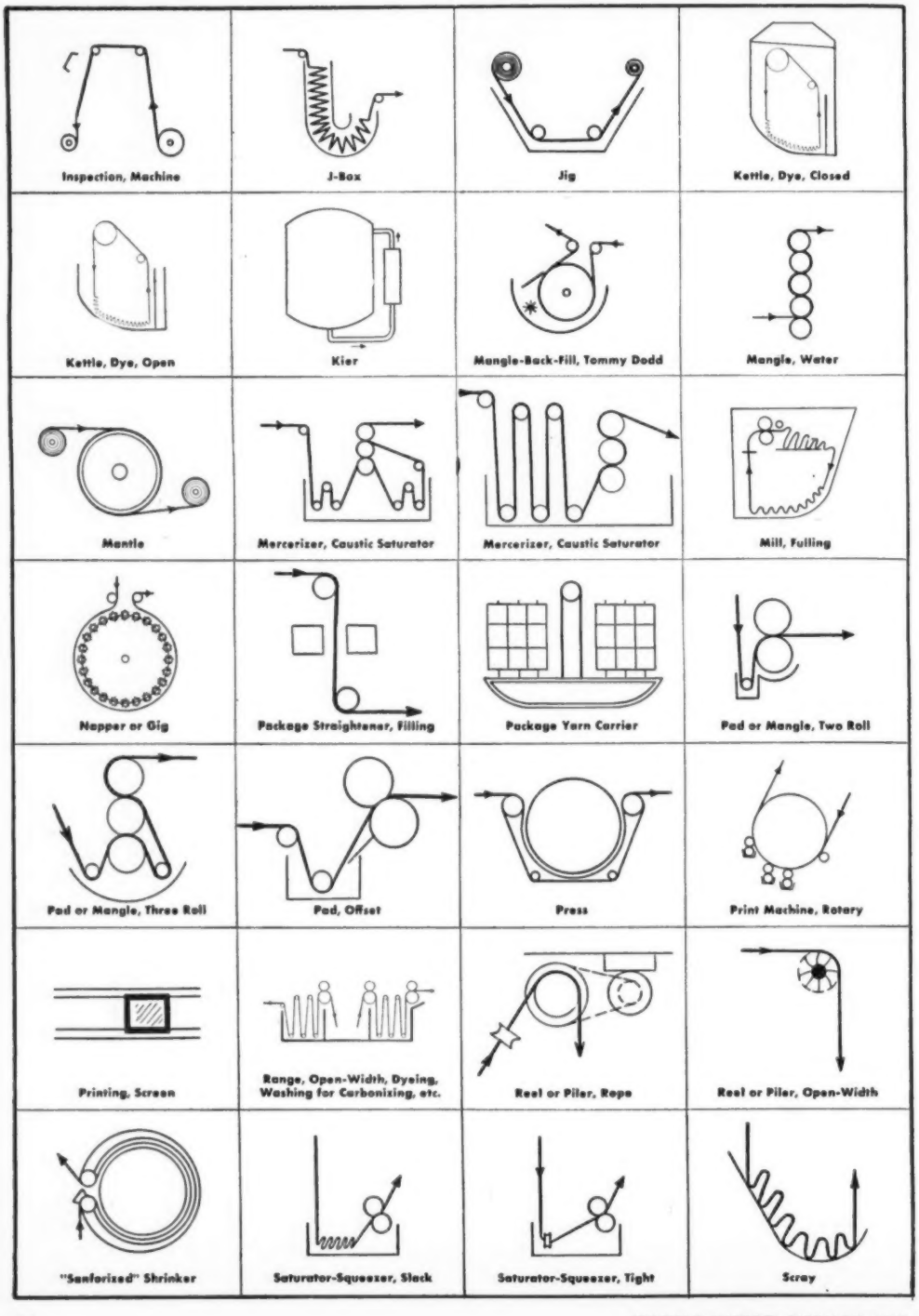
Note— These symbols have been arranged in the alphabetical order of the names applied to them. In some cases, the arrangement may seem to be arbitrary; for example, *winders* may also properly be called *batchers*, *pads* may be termed *mangles*, *Williams units* are actually *dyeing machines*, etc. The arrangement given is the one thought to be the most logical from the viewpoint of the mill man.—*Editor.*

 Ager, Acid	 Ager, Vat	 Batcher	Bin
Boil-Off Machine, Continuous	 Booster, Closed Steam	 Booster, Open Dye	Brushing Machine
 Button Breaker	 Calender, Chasing	Calender, Embossing, Creping, or Schreiner	Calender, Friction
Calender, Plain	Coater, Knife	 Coater, Knife and Roller	 Coater, Knife-Blanket
 Coater, Reverse-Roll	 Coater, Roll	Coating Impregnator, Dip and Flow	Coating Impregnator, Metering
Compensator, Long Arm	Compensator or Gate	 Compensator, Swing Arm	Decater

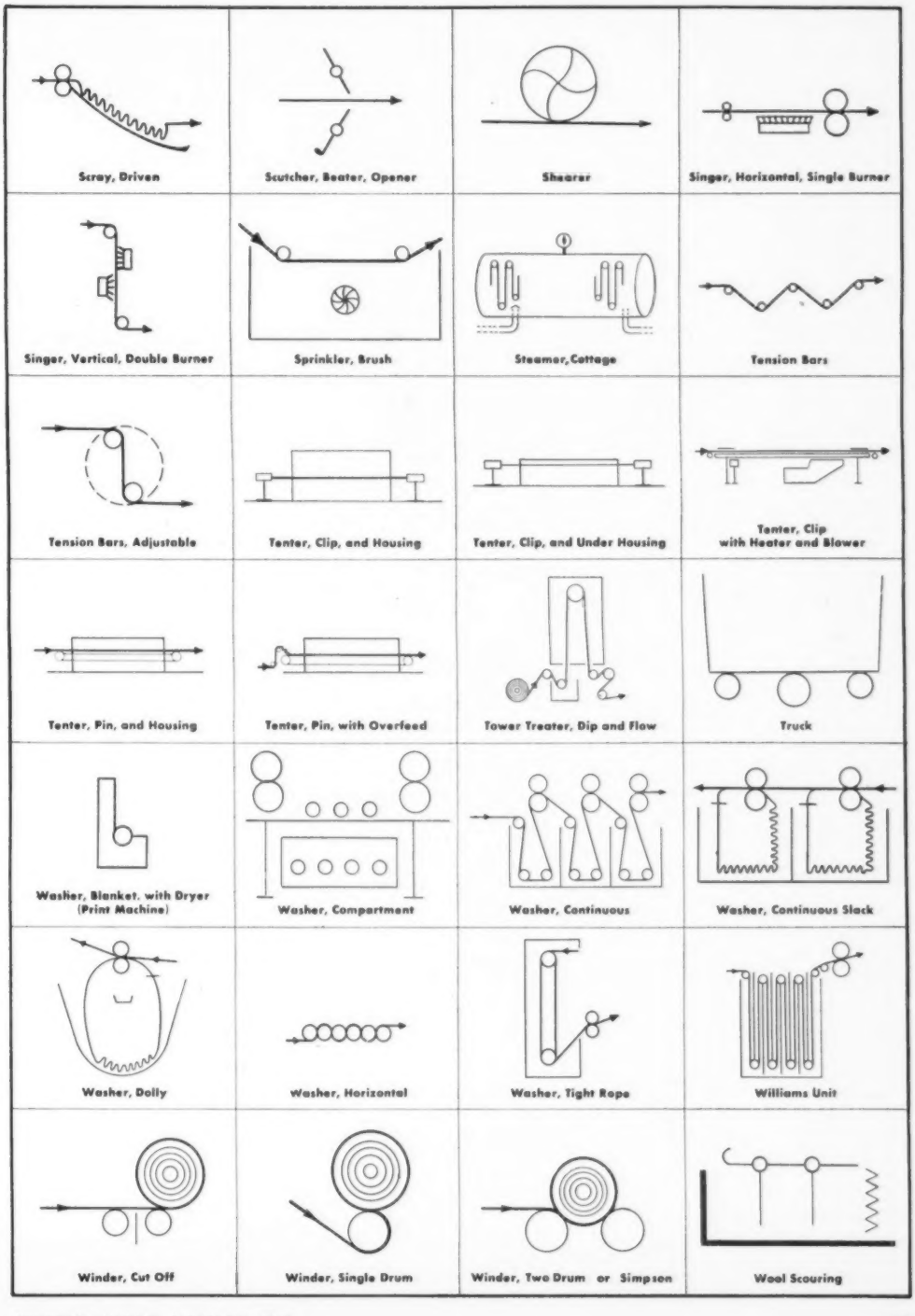
TEXTILE WORLD'S FINISHING SYMBOLS

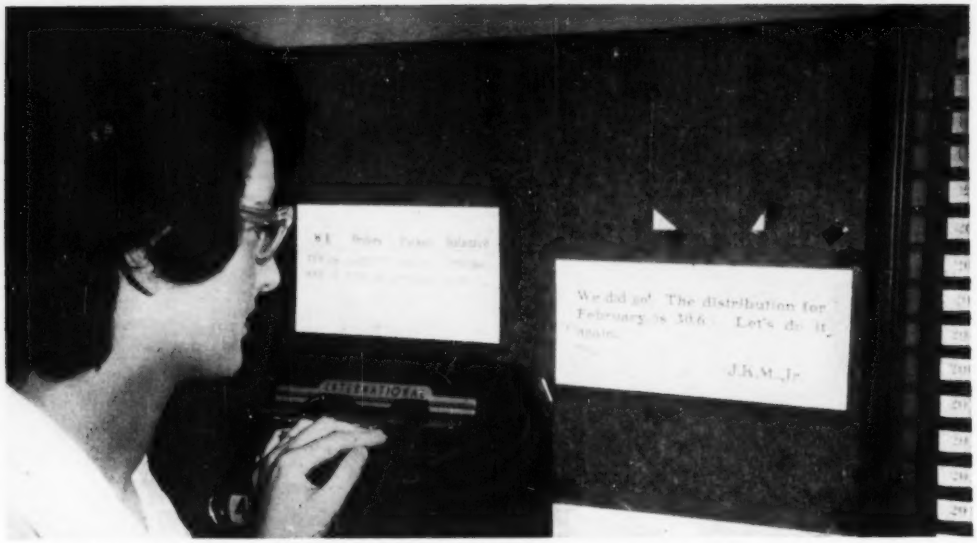


TEXTILE WORLD'S FINISHING SYMBOLS



TEXTILE WORLD'S FINISHING SYMBOLS





AN ADDITIONAL 30.6% accrued to the pay envelope of Helen Adonis last February, according to the poster which indicates the monthly savings.

INCENTIVE PLAN
Promotes Quality Output

HIGHLIGHTS: *Wage and quality incentive plan at Mount Hope Finishing Co. based on monthly billings—Difference between allowable and actual payroll goes to direct workers—Indirect workers paid equal amount by company—System results in cooperation in working force.*

By HOWARD S. KNOWLTON
New England Editor, TEXTILE WORLD

How the Mount Hope Incentive Plan Works

Computation of the individual worker's monthly incentive pay for quality production is performed as shown in the following example:

Assumed billing of plant		$100,000
Standard ratio, productive labor to billing	X	28.9%
Allowable productive payroll		$ 28,900
Actual productive payroll	—	$ 25,000
Savings		$ 3,900
To reserve fund, 25%	—	$ 975
Leaving for distribution, 75% of savings		$ 2,925
Divide by productive payroll, which is	+	$ 25,000
Giving percentage to be paid on earnings		11.7%

If the total pay is $120, employee's share is $120 X 0.117 or $14.04

INCENTIVE PAY is tied to quality production at Mount Hope Finishing Co., North Dighton, Mass. The incentive plan, started in October, 1944, rewards both productive and non-productive workers equally. Incentive pay earned depends on the amount by which the allowable productive-labor payroll exceeds the actual production payroll. Operation of the plan has shifted worker interest from individual output to plant output; and the common interest of customer, worker, and management has been made a reality.

HOW IT WORKS. The plan is based on the relationship of productive payroll to billing for finishing. This plan has many advantages and was adopted for several sound reasons:

1. It requires no policing or checking for honesty of production reports.

2. A single figure, rather than a number of rates and allowances, insures that the savings are distributed as equitably as possible.

3. Responsibility for quality and efficiency is the duty of all workers.

4. All persons, whether productive,

non-productive, or supervisory, have a common interest.

In setting up the plan, the records for some 20 years, over good times and bad, were examined. A figure of 28.9% of the billing was found to be a fair and reasonable amount to allow for productive payroll.

Productive departments are itemized in a booklet describing the plan which is supplied to each employee. Most departments are included except maintenance, power plant, office, and salaried workers, etc. These nonproductive workers are paid the same percentage as is paid to the productive departments, hence everyone's interest in the success of the plan is identical.

Clerical work in compiling the monthly earnings under the plan is surprisingly simple. The total billing for finishing for the period is multiplied by 28.9% to establish the allowable productive payroll. The actual productive labor expense as listed on the payroll for the period is subtracted from the allowable figure. The result is the saving available to the productive workers. Three-quarters of the saving is distributed for the monthly payment. The remaining quarter goes into a reserve fund. An example of a monthly computation is given in the accompanying panel (page 98).

Each productive worker's share for the month is determined as follows: the three-quarters of the saving referred to, expressed in dollars, is divided by the actual productive payroll. The resulting percentage is then posted on bulletin boards as the distribution figure for the month in question.

The earnings of each individual for the month in question are then multiplied by this percentage to determine his or her share of the distribution, which is then included in the next pay envelope.

It was important that the incentive reflect the actual performance for each month. This would be impossible if during any month a deficit should occur, as the following month's performance would be penalized by the deficit. To avoid this situation, the reserve fund previously referred to was included in the plan. Each month, 25% of the savings goes into this fund. If a deficit instead of a saving should occur for any month, naturally there would be no monthly distribution, but the deficit would be paid from the reserve fund, allowing a clean start for the following month.

At the end of each incentive-plan year, 75% of the reserve fund is distributed to the productive workers as a percentage of the annual pay of each worker in the same manner that the monthly distribution is figured. The

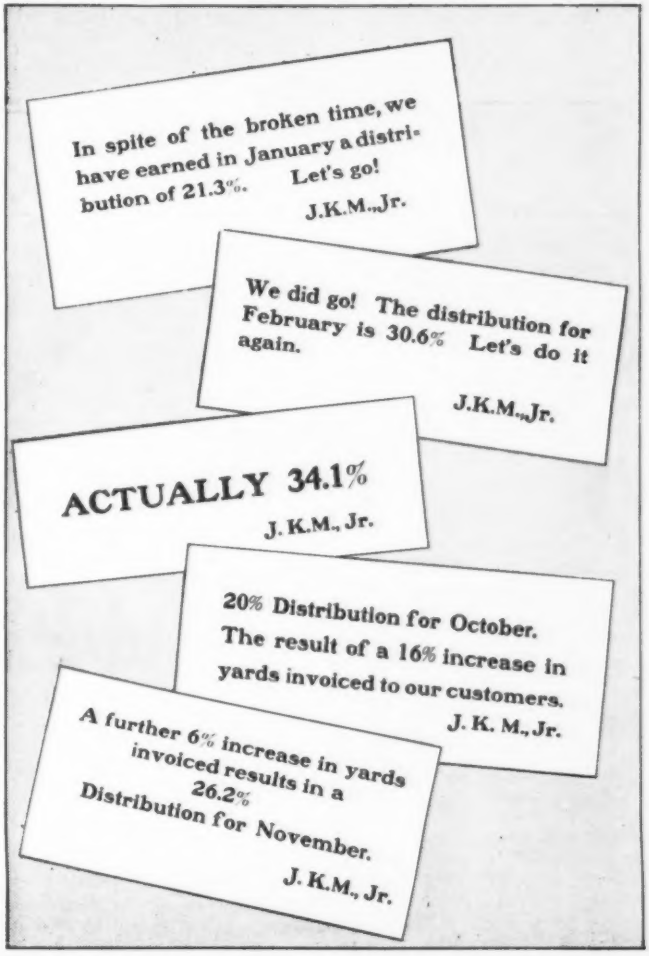
(*Continued on page 198*)

Workers Like the Plan . . .

WRAPPER PATRICIA LYNCH: "I like the incentive plan — it makes you really want to work."

DISPATCHER FRANK PIMENTO: "The more you work, the more you get paid—that's the way it ought to be."

Monthly Posters Tell the Story . . .


In spite of the broken time, we have earned in January a distribution of 21.3%. Let's go!
J.K.M.,Jr.
We did go! The distribution for February is 30.6% Let's do it again.
J.K.M.,Jr.
ACTUALLY 34.1%
J. K.M., Jr.
20% Distribution for October. The result of a 16% increase in yards invoiced to our customers.
J. K. M., Jr.
A further 6% increase in yards invoiced results in a 26.2% Distribution for November.
J. K.M., Jr.

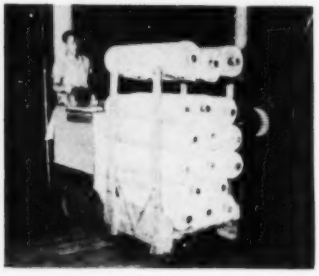
CHATHAM MFG. CO. HANDLES CLOTH ON 4,300-FT. CONVEYOR

MOVING CARRIER is loaded with four boxes of blankets for carrying to packing room.

BLANKET CARTON is moved from gravity conveyor to trolley conveyor in packing room.

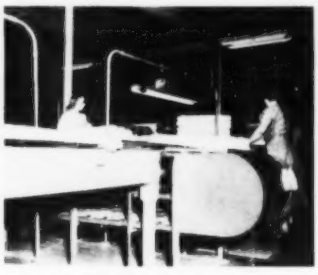
WOODSIDE MILLS FORK-TRUCKS CLOTH FROM WEAVE ROOM TO CLOTH ROOM

CLOTH FROM LOOMS is placed on special pallet rackets by cloth boys.



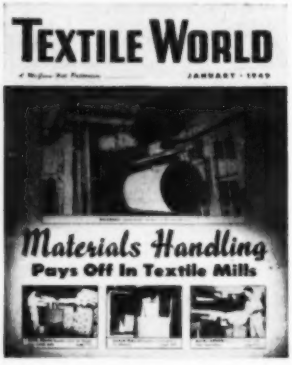
PALLETIZED LOADS are picked up for transportation to the cloth room.

SOUTHERN MILL CONVEYORIZES CLOTH GRADING-TO-BALING OPERATION



TEN GRADING TABLES are placed at the sides of a 55-ft. metal-plate conveyor.

GRADED CLOTH is slid onto moving conveyor from first grading table.



Southern Mills Speed

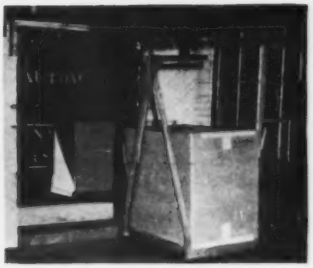
HIGHLIGHTS: *Woodside Cotton Mills hauls cloth from weave room to cloth room with electric fork truck —Chatham Mfg. Co. connects cloth room with packing, shipping, and warehousing by 4,300-ft. trolley conveyor—Another large Southern mill connects grading and baling with 55-ft. metal-apron conveyor.*

THREE TYPES of cloth-handling operations have been improved in each of three Southern mills by use of materials-handling equipment. Cloth handling operations covered are:

1. Handling cloth from weaving to cloth room.
2. Interprocess handling of cloth in cloth room.
3. Handling cloth from storage through packing, warehousing, and shipping.

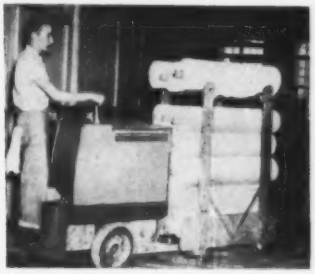
FINISHED CARTON of blankets enters doorway and moves outside building.

SERIES OF BRIDGES from mill to warehouses permit storage in any of four warehouses.

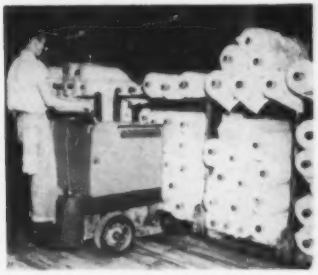


CAR LOADING is speedy with Chatham trolley conveyor and rollers.

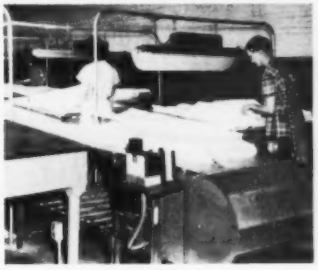
MANEUVERABILITY of truck is demonstrated in swinging through ordinary mill door.



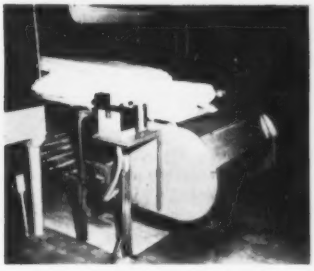
TRUCK ENTERS cloth room and goes directly to storage area.



AFTER STORING load, truck can take empty pallets and tubes to weave room.



GRADED CLOTH from tables in tandem travels at about 25 ft. per min.



ELECTRIC-EYE stops conveyor when bolt of cloth reaches the pickup point.

CLOTH PICKUP is made, and bolts are stacked on trucks for sorting and baling.

CLOTH HANDLING

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

Reports from these three mills indicate that cloth-handling by conventional methods is not only costly but burdensome on employees. It had been difficult to keep employees on heavy cloth-handling jobs. Following installation of mechanical cloth-handling in one of the mills, job acceptance was reported to be vastly better, frequency of accident occurrences was reduced to zero, and employee turnover was reduced.

Cloth-handling costs were estimated by one of the mills to be 55% of total labor cost. At another mill, cloth is handled 13 times between doffing from the loom and shipping from the railroad siding. The mill estimates total handling labor cost to be about 30% of the payroll.

While cost and savings figures are not available from these installations, the installations are valuable as examples of the latest techniques in the solution of cloth-handling problems. The mills emphasized that the principal objectives of the materials-handling installation are to ease handling fatigue and to make handling jobs more attractive to their employees. They also point out that materials handling in their plants does not cut off labor from the payroll and that, where savings are made, all available labor is absorbed in other operations.

(Continued on page 218)

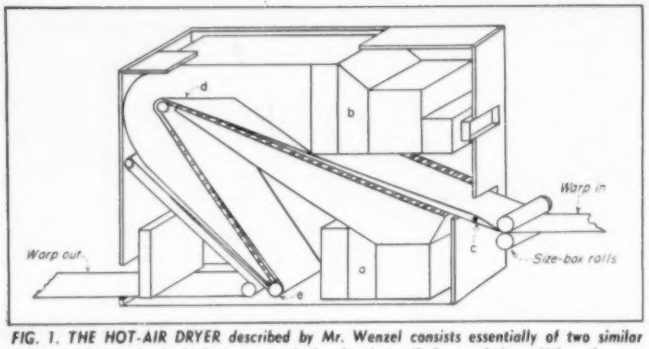


FIG. 1. THE HOT-AIR DRYER described by Mr. Wenzel consists essentially of two similar units a and b, each of which is composed of a heating coil, fan, and duct. When the yarn sheet passes from wet-splitting rolls c to roll d, hot air from unit a is blown over it. Between d and roll e, hot air from unit b is blown over the yarn.

The Textile Operating Executives of Georgia, at its fall meetings in Atlanta, discussed ten questions on slashing and twelve questions on weaving. The questions, submitted by mill men in Georgia, were sent prior to the meeting to all Georgia mills and mill groups. Written answers to the questions were received from 19 mills and mill groups, representing 1,075,966 spindles and 23,309 looms. The same questions were discussed orally at the meeting.

Some of the written answers on slashing are condensed for publication here. Some of the answers to the questions on weaving will be published in an easy-to-read form in an early issue.

HOT-AIR SLASHING
Interests Georgia Mill Men

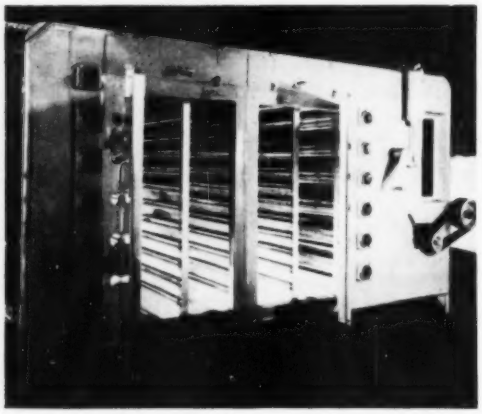
HIGHLIGHTS: *Wet splitting of warp is said to be an important feature of hot-air drying—Gases from open flame in one type of dryer evaporate up to 600 lb. of water per hr.—Textile Operating Executives of Georgia report on several slashing practices.*

THE CHIEF ADVANTAGE of hot-air slashing is that it makes wet splitting of the warp practicable, Paul J. Wenzel, Bachmann Uxbridge Worsted Corp., reported in an address prepared for Textile Operating Executives of Georgia. The yarn sheet can be split after the yarn is sized and before it is dried, and the split can be maintained until the yarn has dried beyond the tacky stage.

Mr. Wenzel was invited to discuss hot-air slashing because of the current interest in the subject by mill men.

Other advantages he pointed out are (1) the dryer can be cooled instantly when the slasher stops, and (2) the sized yarn does not stick to a contact cylinder. A sketch of his company's Gentle-Air dryers is shown in Fig. 1. [For additional details of the slasher see T.W., Aug., 1948, p. 198.]

A direct-fired, festoon-type warp dryer, Fig. 2, was discussed by Carl Endlein, Industrial Heat Engineering Co. This dryer is 12 ft. long and 6½ ft. high. The yarn travels back and forth through the inclosed drying area by passing around a series of fluted stainless-steel rolls at each end of the drying section. The two lines of rolls are located 7 ft. from each other. During each pass the yarn sheet makes through the dryer, it runs between two sets of baffles. The purpose of the baffles is to



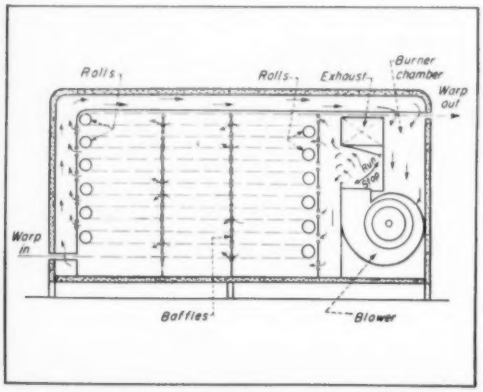


FIG. 2. THE DIRECT-FIRED DRYER described by Mr. Endlein consists of a burner chamber, fan, and baffles. The yarn sheet runs back and forth through the drying area by passing around the driven fluted steel rolls at each end of the drying section. The baffles close part of the air-passage space and force a change in air velocity.

break up the flow of the "drying gases" (said to be "inert products of combustion and superheated water vapor"). The result is that the flow of drying gases against the yarn is increased at the baffles and slowed down again when it passes the baffles.

DRYING CAPACITY. Two blowers with a combined capacity of 10,000 cfm. are used in the heating end (front) of the dryer. The drying gases from the back of the dryer flow through the oil-burner heating chamber and are recirculated through the drying area. The gases in the dryer are reheated and recirculated 25 times per min. When they return to the heating chamber they are about 170° F. cooler than they are immediately after they are reheated. Up to 600 lb. of water per hour can be evaporated from the yarn.

The burner operation is controlled by a thermometer controller. Drying temperature is said to be accurately maintained at any desired point between 200° and 400° F. When the slasher is running at creep speed or is stopped, the burners change to extreme low fire and a damper diverts the drying gases from the drying area to an exhaust duct.

In answer to a question on the loss of slasher sizing materials when starches of different fluidities are used, one mill gave the following report:

	60 Fluidity	80 Fluidity
Soft yarn run (lb.)	1905	1902
Sizing materials used	301	228
Total	2206	2130
Sized yarn produced	2204	2123
Sizing loss	2	7
Size added (%)	15.07	11.40

WET SPLITTING. Advantages and disadvantages of wet splitting of warps were cited by seven mills. Advantages pointed out were:

1. Reduced strain on the yarn at the splitting rods on the front of the slasher.
2. Smoother warp as a result of not tearing the warp film after it has dried.
3. Reduced size shedding at the loom.
4. Better drying of the individual ends.

Disadvantages:

1. Splitting roll picks up loose end when a yarn breaks, and the end wraps around the roll.
2. If splitting rods are used, size accumulates on the rods.
3. Some wet-split ends tend to roll together when they touch the heated cylinder.

One mill reported: "We have run several tests in which we wet split between the size rolls and first cylinder. We have been unable to detect any improvement in yarn strength, yarn

(Continued on page 212)

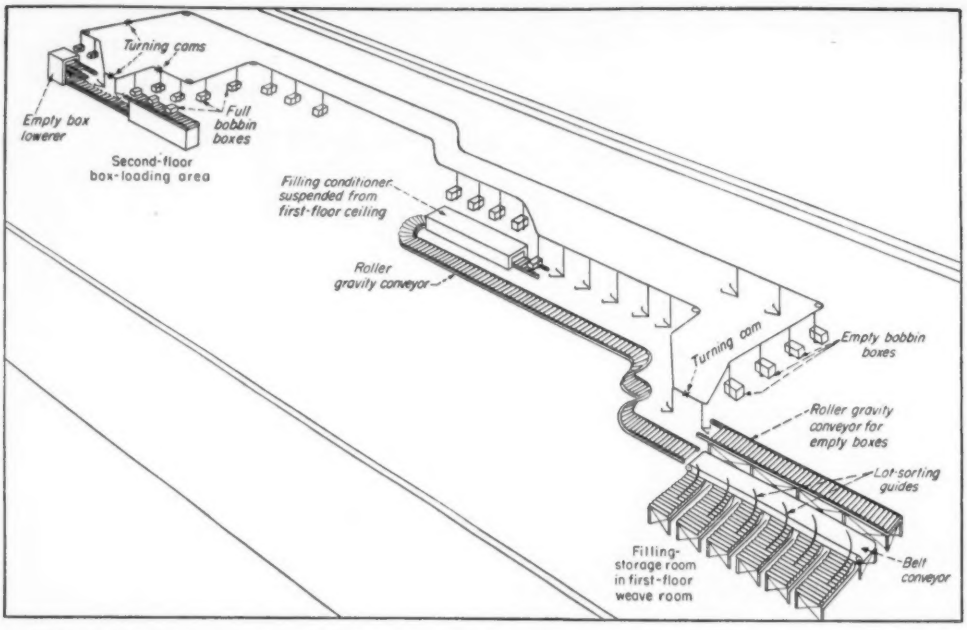
OFFICERS of the Textile Operating Executives of Georgia are (l. to r.): R. P. Hardeman, Riegel Textile Corp., Trion, retiring gen. chmn.; John S. Turner, Bibb Mfg. Co., Columbus, member of the committee elected vice-gen. chmn.; J. C. Edwards, Jr., Exposition Cotton Mills, Atlanta, vice-gen. chmn. elected gen. chmn.; and Robert W. Philip, Callaway Mills Co., LaGrange, re-elected secy-treas. T. H. Gilbert, supt., Athens Mfg Co., Athens, not shown, was elected a member of the executive committee for a term of 2½ years.

Cost of Squeeze-Roll Covers

Mill	Type Cover	Cost (per month)
A	Wool	$4.00 per roll
C	Wool	35.00 per slasher
F	Back roll—synthetic Front roll—wool	22.65 per slasher
G	Back roll—clearer cloth Front roll—wool	5.95 (per 12 wk.) 47.00 (per 2 wk.)
H	Wool	43.00 per slasher
I	Wool	30.00 to 35.00 per slasher
J	Back roll—synthetic Front roll—wool	14.88 per slasher
K	Wool	16.50 per slasher
L	Wool	36.50 per slasher
N	Wool	21.60 (per 3 to 4 wk.)
O	Wool	11.50 per slasher
R	Wool	47.50 per slasher

Ends Tied per Manhour on Portable Tying-In Machine

Mill	Ends tied per hr.	Ends in warp	Yarn No.	Ends per in.
A	6,000	1,700 to 5,500	13 to 14	48 to 118
B	4,000	1,543	8/2	28
C	28,000 (in 8 hr.)	3,588	14	62
E	3,500	1,500 to 3,000	4 to 18, 16/2, 6/3	——
H	2,000 to 3,000	420 to 1,536	14 to 16	——
I	2,430	1,080	12	29
J	2,400	550 to 1,400	10 to 30	60
N	2,800	1,258 1,252 1,950	6.75 3 6.75 4 4.50	25 21 33
O	1,291	1,986 3,564 4,786 874	4.50 10 12/2 8.75/3	33 35 34 34
P	4,722 4,588 6,976 5,575 4,399 6,944 5,314 5,979 5,356 5,680 6,298 6,298 6,480 6,094	1,944 1,715 4,992 4,040 1,725 4,732 2,936 2,744 3,139 2,544 3,280 3,280 3,456 3,105	14 14 19 19 24.25 13.90 19 14 14 22 19 14 19 14	48 42 96 68 42 107 56 68 60 56 88 88 88 78
Q	3,000	900	15.50	74



THE OVERHEAD CHAIN CONVEYOR automatically picks up and deposits full and empty bobbin boxes. A sorting system in the filling room separates filling by lots.

BOBBIN-HANDLING Plan Promises Savings

HIGHLIGHTS: *Proposed system uses gravity roller and endless-chain conveyors to transport full filling boxes to weave room and return empties—Separation of filling lots done automatically — Under-loom conveyors carry empty bobbins to strippers.*

By PREBEN JESSEN

Materials Handling Engineer
New York, N. Y.

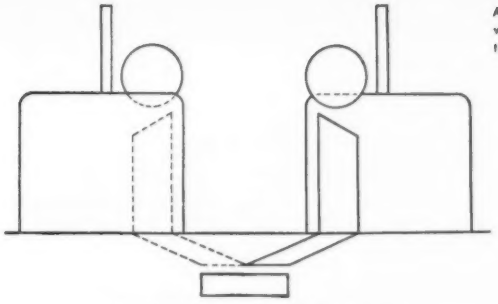
AN ANNUAL LABOR SAVING of $23,700 with an expenditure of $34,500 for equipment was indicated by a bobbin and bobbin-box handling system proposed recently to a prominent New England cotton mill. The investment in handling improvements would thus be amortized in about 15 months.

The plan provides for mechanizing the transport of full and empty filling-bobbin boxes from the spinning to the weave room and return. Empty boxes are filled in the spinning room adjacent to a gravity roller conveyor. Filling packers, disregarding any sequence to keep counts separated, transfer filled boxes to the roller conveyor, and boxes roll to the loading point of an overhead chain conveyor. The overhead chain conveyor automatically picks up the full boxes from the conveyor and transports boxes to the filling conditioner. Boxes are automatically dropped on a conveyor belt passing through the conditioner suspended from the ceiling. As boxes emerge, they roll down a gravity conveyor to the filling-storage room in the weave room.

Filling is automatically sorted according to counts on the belt conveyor in the filling room, and each count is carried to its own storage area in the room. The system calls for a series of holes to be drilled in the top of each box front—the number of holes corresponding to the number of yarn counts or types. As the filling packer places each box on the spinning-room roller conveyor, he places the holes to the front or in the direction the boxes will roll. The packer also places a peg in the hole designating the yarn count or type. When the boxes reach the filling storage room, they are shunted onto individual gravity conveyors by a series of guide rails so placed as to catch a given peg. Boxes with pegs beyond the individual guide-rails continue on the main conveyor until their pegs are caught by another guide rail, causing boxes to be shunted off.

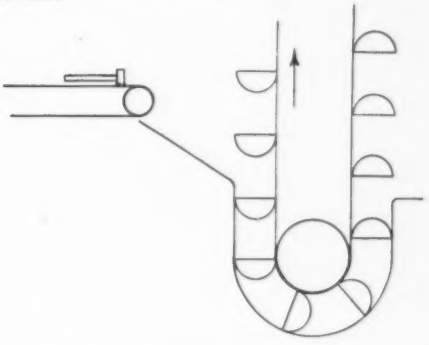
In the filling-storage room, empty filling boxes are placed on a roller gravity conveyor. Boxes roll to a point where they are picked up by the empty carriers on the chain conveyor. The chain carriers lift the empty boxes automatically and return them to the spinning room. In the spinning room, empties are deposited automatically on a gravity roller conveyor which runs under the table on which boxes are being filled. Thus a continuous supply of empty boxes is maintained for use of filling packers.

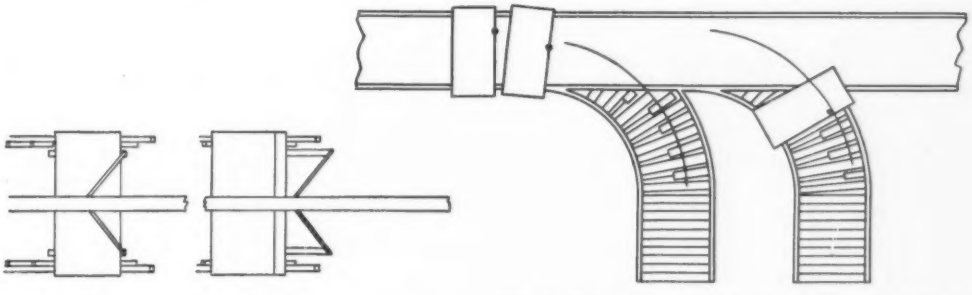
The empty-bobbin-handling system



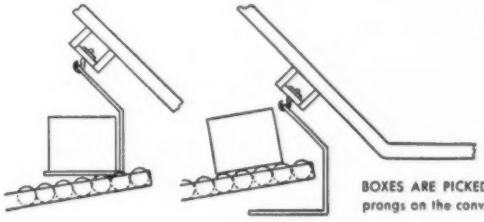
BOBBINS DROP from the loom battery to conveyor belts beneath the weave-room floor and are automatically conveyed to the bobbin stripper.

A VERTICAL CUP CONVEYOR transports bobbins from the large conveyor belt beneath the weave-room floor to the bobbin strippers on the floor above.



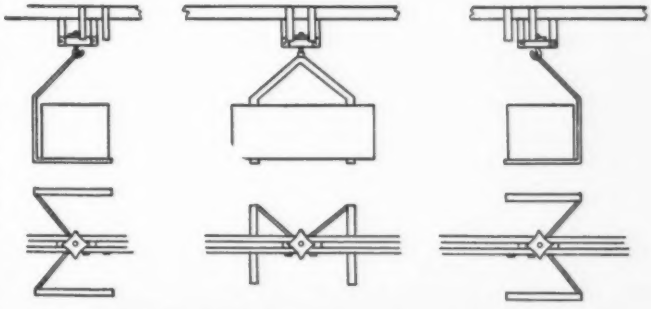


MIXED BOXES OF FILLING lots are sorted by the location of a peg in the box front passing or catching a guide above the conveyor.



BOXES ARE PICKED UP from or dropped on the roller-conveyor tip by prongs on the conveyor carriers which pass between rollers on the sides.

provides for narrow belt conveyors to be placed under each row of looms. Bobbins, instead of falling into the usual can, would fall through a chute to the belt. Belts under loom rows in each half of the weave room would drop bobbins onto a single wide conveyor belt under the center of the weave-room floor. The wide belt conveys bobbins to a hopper where they are picked up by a vertical cup conveyor, lifted, dropped through a chute to another conveyor belt. This belt runs near the ceiling of the floor on which bobbin strippers are installed. Bobbins are conveyed on this belt to a position above the two strippers where a dividing guide rail causes an approximately equal quantity to be dropped on the feed hopper of both strippers.



CARRIERS ARE ROTATED by the star wheel located at the top of the carrier turning against a cam.

GRACE BLEACHERY, of Springs Cotton Mills, has South American-style stone sunshade over each window.

FINISHING PLANT Features Straight, Continuous Operation

HIGHLIGHTS: *New Bleachery Div., Springs Cotton Mills, has a capacity of 3,000,000 yd. per week—Straight line of continuous processing covers 800 ft. of floor space—Power plant generates 15,000 kilowatts of current and exhausts 300,000 lb. of steam per hr.—Filtered water available at the rate of 5,000,000 gal. per day.*

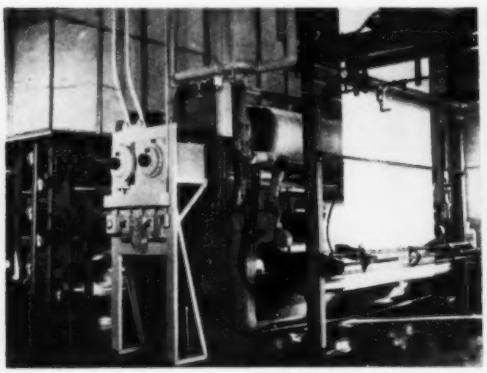
By P. M. THOMAS,
Associate Editor, TEXTILE WORLD

STRAIGHT-LINE continuous processing is achieved in the layout and construction of the new finishing plant built by Springs Cotton Mills, Lancaster, S. C. Starting at the receiving platform at the west end of the building, goods are processed by the latest methods without back-tracking and emerge on the shipping platform at the east end of the building.

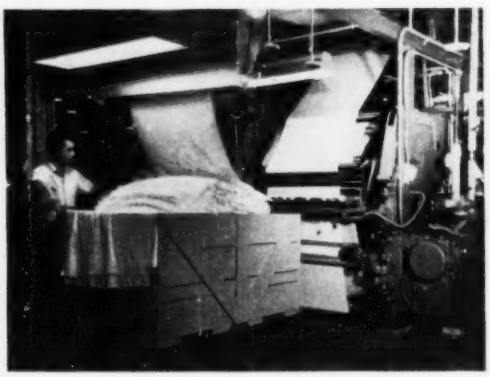
From gray goods to finished goods, the cloth passes through a processing layout 800 ft. in length. Only two breaks occur in the continuity of processing: steeping in gray bins, and white-bin storage. The sequence of operations is:

Singeing
Gray bins
Bleaching or mercerizing
Mercerizing or bleaching
White bins
Dyeing or finishing.

Built to process only cloth manufactured by the various Springs Cotton Mills, the new plant has a capacity of 3,000,000 yd. per wk., or nearly 50% of the total Springs Mills' production. The goods finished will include wide sheetings, pillow casings, pillow tubings, broadcloths, jeans, poplins, and print cloths.



WIDEST FINISHING RANGE can handle fabrics 110 in. in open width.



SANFORIZED SHRINKER handles 50-in. fabric.

BLEACHING. The Becco system of continuous steam bleaching is used. Two Becco ranges for rope bleaching and one Mathieson open-width steamer are used. The bleaching ranges are equipped with Brown instruments for controlling temperature, flow, level, and pressure. Washing is done by saturators and Williams units. Bleaching capacity of the plant is approximately 3,000,000 yd. per wk.

Mercerizing capacity is about 1,500,000 yd. per wk., or about one-half the goods that go through the plant.

Three continuous-dyeing ranges have been installed, two with hot-flue dryers. There are 13 jigs in each range. They are capable of handling vat colors continuously, by both the reduced and pad-pigment methods. Williams units are in each of these ranges.

Five finishing ranges, accommodating widths from 20 in. to 110 in., are used. Three of these ranges handle cloth up to 50 in. in width, one handles goods up to 80 in. in width, and the widest handles cloth up to 110 in. in width. Speeds vary from 100 to 250 yd. per min. Each finishing range is equipped for processing through a water mangle, semidrying on cans, starching, tentering, and calendering. Facilities are also provided for single doubling and double doubling the wider goods in preparation for cutting and sewing or for rolling the goods on boards for retail sales.

FINISHING. The plant is equipped with four duplex-type machines for Sanforized fabric, all of 50-in. width; two rolling calenders; and one chasing calender. In the packaging room, there are folders for making long folds for putting up goods going to the cutting-and-sewing trade, doublers for packaging doubled and rolled goods for retail sales, winders, inspecting machines, and facilities for baling and carton packaging.

Manual handling at the gray, white, and mercerizing bins is avoided by the use of Perkins pilers. The mechanical pilers are mounted over the bins on a steel frame so that they can be maneuvered from one bin to another. The plant utilizes 16 gray, 18 white, and 8 mercerizing bins.

Packaging is done on the second floor. At the delivery end of the finishing ranges there is a roll-lift machine extending from the first to the second floor. Arms on the machine pick up a roll of cloth, convey it upstairs, and unload it.

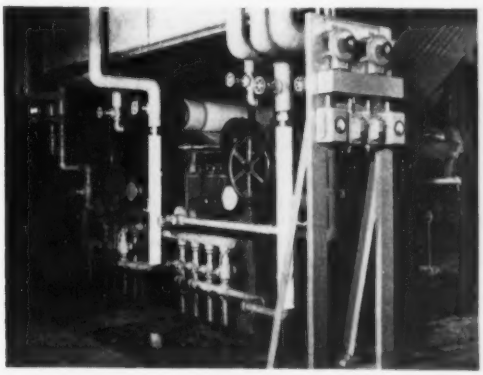
Well-equipped physical and chemical laboratories are provided. Besides a conditioning room and equipment for routine control testing, the laboratory is also equipped with a Weather-Ometer for testing the effect on cloth of varying weather conditions; a Fade-Ometer for testing the effect of sunlight; a laboratory-model Williams unit; a Launder-Ometer for wash-fastness testing; an extractor; a washer; a 30-gal.-per-hr. still for distilling water; chemical-laboratory benches equipped with gas, water, steam, air, and electricity; a steam table; and a hood for chemical fumes.

The plant is located at Grace, S. C., 6 mi. west of Lancaster, on the Lancaster & Chester railroad (also owned by Springs Cotton Mills) and the Catawba river. It occupies eleven acres of ground and is inclosed by a fence 2½ mi. long. The entire site contains 1,000 acres. The entire project is reported to have cost about $13,000,000.

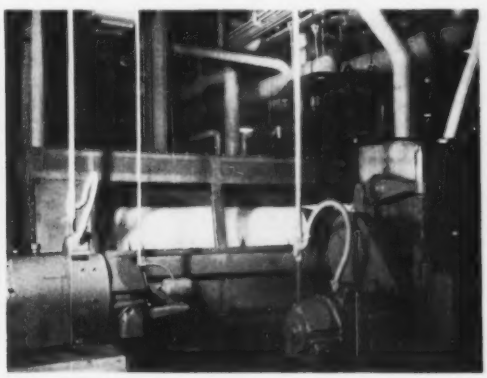
EMPLOYEE CAFETERIA can seat 250 workers at one time.

BUILDING. The building consists of a storage basement for bulk chemicals, a ground floor, 1,000x405 ft., and a 200x405-ft. second-story section on the east end. A railroad siding extends the full length (1,000 ft.) of the building on the north side. At the west end of the building is a receiving platform for both rail and truck shipments. Similar platforms for outgoing shipments are located at the east end of the building.

(*Continued on page 193*)



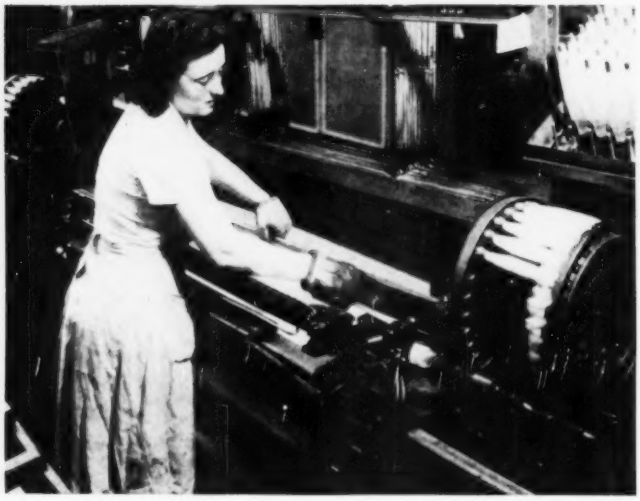
WASHING after mercerizing is done in two Williams units.



HOT WASH in bleaching range delivers cloth to squeezer at right.

Cotton Machinery Adaptable To LINEN-TYPE RAYONS

HIGHLIGHTS: *Soft-twist, spun-rayon yarns suitable for variety of linen effects—Care in tension control important at every stage—Fabrics are sensitive to filling defects—Slub effects best for piece dyes, regular constructions for prints.*



BOBBIN-CHANGING LOOM permits efficient manufacture of linen-type rayons.

By S. A. G. CALDWELL, F.T.I.

THE BULK OF LINEN-TYPE spun-rayons made at present are dress materials. The fabrics are usually woven in the gray and subsequently dyed or printed. Pin-stripe fabrics, produced by introducing colored yarn in the warp and/or filling, are also popular. Dyed goods may be improved in appearance and character by using yarns which emphasize the slub and fleck effects characteristic of many linens. For print cloths, a smooth surface and level ground are desirable to insure regularity of pattern.

While the different systems of processing cotton- and linen-type rayons have an important bearing on yarn characteristics, the physical properties of the yarns produced are more closely akin to those of cotton, so that winding and weaving practices and machinery are generally allied to those employed in the cotton industry.

Spun-rayon yarns are free from impurities such as leaf, motes, etc., which are frequently met in yarns made from cotton or flax. With the exception of certain grades of waste material, rayon staple is not inclined to work up neppy in the spinning process, so that the normal practice of slubbing and cleaning employed when winding cotton and flax yarns can be dispensed with. As the spinning-twist factor is usually low (1.7 to 1.8 on the square root of the equivalent linen lea), the fibers are not bound firmly into the body of the yarn and are more readily raised by frictional contact with stationary guides and rubbing on the winding machine. It is desirable that these points of contact should be as few and the bearing as light as possible. Softness of twist helps to give full hand to the fabric, which can be further enhanced by increasing the fineness of denier of the staple.

WINDING AND WARPING. Because of greater extensibility of spun-rayon than of linen or cotton yarn, considerable care must be exercised at all stages of warp preparation to insure uniform tension across the beam. This can be achieved only by using a modern-type warping unit with magazine creel supplied by cones.

Best results in winding are obtained with a rotary traverse machine, such as the Roto-coner. Since the drum rotates in the direction of yarn travel, friction between the guiding groove and the thread is eliminated so that the latter is not roughed—an important factor in the production of linen-type fabrics.

In sizing, the weight increase should be the minimum that will insure efficient working. Best results are usually obtained when the percentage is about 6 to 10% on the weight of the yarn. Excess loading increases brittleness and reduces efficiency in weaving. Owing to the considerable extension of viscose spun-rayon yarn in the wet state and the subsequent contraction on drying, it is desirable that tension on the yarn when wet should be the minimum essential to good results while still sufficient to prevent adjacent threads from running together and twisting up as they will do if slack. Sizing of blended-fiber yarns, comprising mixtures of viscose with acetate or with natural fibers, involves consideration of the requirements and affinities of the associated materials.

A useful dressing for ordinary purposes consists of sago (100 lb.), tallow (8 lb.), and water (80 gal.). A tragon size is sometimes used when very light dressing is required. The quantity of size taken up depends largely on the yarn's structure and surface. Under similar conditions, the same weight of yarn made from a fine-denier fiber will not take up as high a percentage of dressing as if spun from coarse-denier fiber.

Since spun-rayon yarns are more lustrous than cotton or linen, defects in cloth structure often show up more readily in the finished fabric. It is essential that conditions responsible for these defects be eliminated by careful attention to the responsible factors.

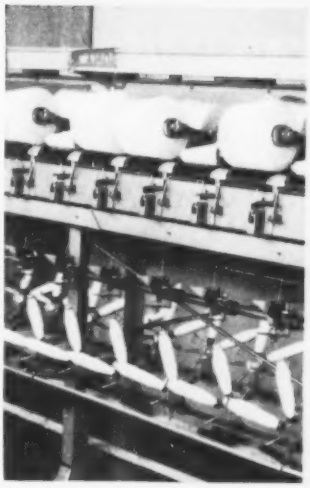
When changing over linen and cotton looms to weave spun-rayon fabrics, consideration must be given to the lower breaking strength and greater stretch under load of the rayon yarns. Warp-beam tension should be the minimum necessary to insure the requisite control. Where braking

mechanism is of the friction type, the setting and adjustment must insure uniform tension on each side of the beam. Any tendency toward jerky running should be avoided. Variation in tension or in yarn-release from the beam results in unevenness of cloth structure, which will become more evident after succeeding finishing processes.

FILLING PROBLEMS. The occurrence of filling bars in spun-rayon fabrics is a frequent source of trouble. These may be due to a variety of causes, including variation in fiber deniers or yarn weights, differences in twist, mechanical defects in the loom resulting in uneven distribution of filling, or to differences in reaction of the material to dyes. Control of these factors, so far as the weaver is concerned, consists in insistence on delivery of yarns of uniform structure and quality for each order; organization of winding departments and filling supply to avoid mixing when different makes and grades of yarn are being processed; and correct operation of the loom to insure uniform spacing of the yarn. Slackness in the beat-up generally occurs when the loom is being started up and may be due to imperfect warp-release or cloth take-up mechanism. Wear in the crank-shaft housings, which results in a certain amount of play, is also responsible for filling bars. A good loom drive, which will insure a firm beat-up when starting, will go far toward eliminating starting marks.

For shed formation, the use of a tappet which will give a quicker change than that usually employed in linen and cotton looms is favored. This permits a longer dwell and increases the time for passage of the shuttle, thus reducing friction between the latter and the yarn. Heddles used on looms for cotton and linen weaving may include those with twine or cord, round wire, and flat-steel eyelets. The latter type is preferable for harnesses on looms weaving spun-rayon yarns since it is less inclined to ruffle the yarn surface. Even eyes of this type become worn and cut with usage and must be replaced.

Defective filling packages are the most common cause of broken picks in weaving. The trouble may arise from bad winding or from a fault in the bobbin giving a rough or chipped surface. The latter occurs most frequently when wood bobbins are being used, and many firms have abandoned these in favor of compressed paper or plastic. When weaving soft-twisted, spun-rayon filling, any irregularity at the shuttle eye or other point of contact with the running end will frequently cause accumulation of fiber



***AVOIDANCE OF FRICTION** on linen-type spun-rayon yarns suggests a rotary traverse for winding.*

which drags on the yarn and results in variable tension and filling breakage. The variable tension may cause uneven shrinkage in finishing.

Loss of alignment by the shuttle tongue is a common cause of broken picks. These occur most frequently when the filling supply is running low, and are due to inability of the yarn to the clear the end of the bobbin, particularly if the latter is roughened by wear. The shuttle eye should be approximately in line with the end of the bobbin when the filling package is in position on the tongue. Sufficient clearance should be maintained to permit freedom for ballooning when the yarn is being withdrawn.

WARPING IMPORTANT. If proper attention is given to warping and beaming, little trouble will be experienced with end breakage in the loom. Any evidence of undue hairiness, which would constitute a serious defect in linen-type fabrics, should call for immediate examination of heddles, reed, and shuttle. Very hard shuttles are most favored for weaving spun rayon, and their longer life and more efficient service may compensate for the higher initial cost.

The Northrop automatic bobbin-changing and shuttle-changing looms for cotton and linen weaving have proved satisfactory for the manufacture of linen-type rayons, and are being used to an increasing extent in Great Britain for this purpose. Various models are available for different types and weights of cloth.

On a bobbin-changing linen loom, shedding can be accomplished by tappet, dobby, or jacquard mechanism. Various types of warp let-off motions can be fitted, depending on manufacturer's preference and the purpose for which the loom is required. The center filling-fork motion is preferable for spun-rayon weaving, as it is designed to control the filling at every pick. The warp-stop motion is provided with a device for immediately finding a broken end.

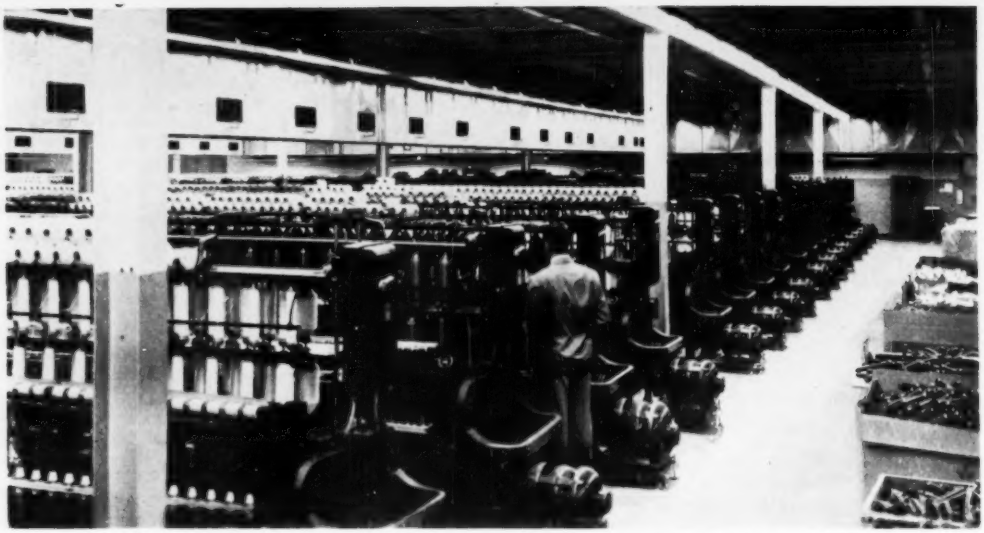
On bobbin-changing looms, a two- or four-shuttle box motion may be fitted if required. This can be controlled from either a card motion, dobby, or jacquard head. The filling magazine is controlled electrically from the box motion to insure the insertion of the correct color or kind of filling into the shuttle when required.

FABRIC TYPES. While color and design are important factors in fabric appeal, cloth structure constitutes the fundamental background. This is particularly so in linen-type fabrics, many of which are of plain weave and depend on yarn properties and loom setting to impart the characteristic structure and hand.

Linen-type dress fabrics are mostly of the plain canvas weave and utilize from 6 to 25 lea yarn, usually a combination of comparatively fine warp with heavy filling. Such fabrics constitute a large proportion of present-day dress-type materials. Piece-dyed cloth with pin-stripe effects obtained by introducing a different color yarn of dye-resistant fiber are also popular, the range including two-color yarns with an oatmeal weave to give a variety of color blends.

For prints, especially those in which the motif embodies fine details, the linen-like character must be limited to the normal irregularity of a true flax line yarn. This is also necessary in the case of pin-stripe dyed goods, otherwise the fabric appearance will suffer through indefiniteness of pattern. In plain, dyed, or printed fabrics lacking a definite design, the linen-like character may be emphasized by using yarns which introduce definite slub and fleck effects. This can be elaborated by including a variety of waste materials into the blend by which the unevenness and irregularity can be further emphasized by cross-dyeing. This treatment gives the fabric a tweed-like structure and character, similar in appearance to the popular "linen tweeds" of prewar years but superior in hand and finish.

The variety of linen-type spun-rayon products, however, is not limited to relatively heavy fabrics in plain canvas and hopsack weaves. Manufacturers have extended the range to include light-weight structures of a more dressy nature.



BOOSTER-SYSTEM air conditioning in spinning permits refrigeration of new rayon mill in future if desired.

Mooresville's RAYON MILL Stresses Versatility

HIGHLIGHTS: *Machinery selected for processing any synthetic staple fiber — Air conditioning custom-designed for each department to allow for additional services if needed — Building design aids material flow and proper blending.*

By C. MALLARD BOWDEN

Southern Editor, TEXTILE WORLD

Mooresville Mills, Mooresville, N. C., has new and versatile machinery and air-conditioning systems in a new building especially designed for processing synthetics. Production from the new equipment greatly expands the company's capacity for synthetic and blended yarns that are woven by other units of the company into high-quality shirting and other fabrics. Right now, its main product—vat-dyed, 100% spun-viscose yarns—increases Mooresville's supply of yarn for completely washable, woven-pattern, crease-resistant fabrics.

Layout and equipment of the new mill are adaptable to staple lengths of 1 to 2½ in. Installation of both roller-top and revolving-flat cards widen the range of deniers that can be processed; the air-conditioning systems permit the precise control required by varied fiber processing.

The 138 x 459-ft. building is steel-framed, brick, and fully inclosed. It was designed by the McPherson Co., mill architects and engineers, Greenville, S. C.; and built by Barger Bros., contractors, Mooresville, N. C. Its 20-year bonded roof is made of pre-cast concrete slab, with 2 in. of Celotex insulation, plus tar and gravel. The roof slopes ¼ in. per ft. to outside walls of 12-in. brick, 4-in. Fiberglas insulation, and 4-in. glazed-tile interior.

The high gloss of Mooresville's glazed-tile interior is useful as well as decorative. Smooth walls, and hard-finished, clean floors are almost necessities in the modern synthetic-fiber mill. Mooresville's walls and floors have living-room sparkle. Each successive blend of stock must be kept separate, and the possible inclusion of stray fibers from a previous blend in a new mix must be avoided. Tile walls and smooth, hard-finished floors reduce that possibility. Mooresville's housekeeping during stock runouts also helps eliminate the entry of unwanted fibers into the blend

VERSATILE EQUIPMENT. The quality of Mooresville Mills' new building is matched by the versatility of machines and air-conditioning equipment. All yarn-manufacturing machinery through twisting was installed by Saco-Lowell Shops; warper equipment by Cocker Machine and Foundry Co.; winders by Universal Winding Co.; automatic quillers by Abbott Machine Co.; air conditioning by Air Engineering Co., Charlotte, N. C.; electrical contracting by Mill and Marine Electric, Inc., Gastonia, N. C.

Mooresville blends synthetic fibers at the breaker picker. A 6-ft. regulator table with stop-and-start control feeds the hopper of a F-5 feeder behind the picker. Breaker-picker processing is mild. One upstroke carding-beater does all the processing required. A No. 5 automatic filter cleans the air before it recirculates in the room. The thin sheet of impurities collected from the air is removed about every 4 hr.

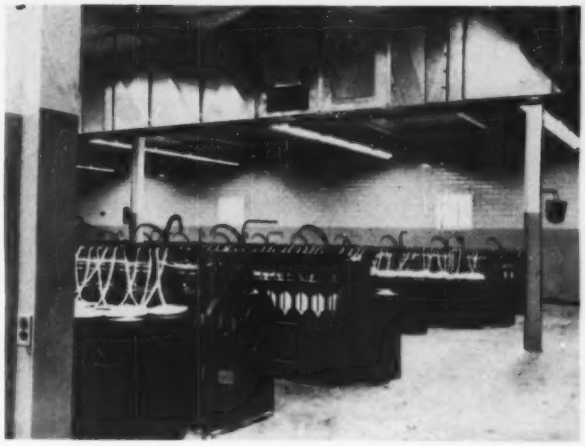
Finisher pickers have two carding beaters and an automatic filter each. Two lines of pickers produce the laps for Mooresville's new mill. The extra space in the room provides for conditioning bales before opening and for laying-down of mixes. Other features of the opening-picking design are air-conditioning and the installation of Benjamin dust-tight, clear-glass globes with R.L.M. reflectors.

Ample and diversified carding capacity is maintained by 43 revolving-flat and 7 roller-top cards. Up to 2-in. staple can be carded by the revolving-flat cards. Longer staples and coarser deniers are processed by the roller-top cards. The latter's facility for blending is also said to be a factor influencing its inclusion in the all-synthetic mill.

Two 9-in. lap winders prepare the card sliver for drawing that is done on the new 3-over-4 roll system. The Mooresville installation of the new drawing is said to be one of the first complete installations in the country. The system extends the principles of the Shaw system to drawing and is said to effect close control of fibers during drafting. Control is obtained by the large middle roll which is one of three top rolls. Four steel bottom-rolls comprise the other set of rolls. Draft areas are the break and front drafts, both of which are influenced by the top middle roll.

Mooresville's FS-2 roving-frames also use the Shaw principles of drafting and fiber control. The roving system has additional apron-control for fibers. The frames have 120 spindles each and build 10x5-in. packages.

The mill's 40 frames of Z-2 spinning each have 8¼-in. traverse and 252 spindles. The 4-in.-gage frames can spin a wide variety of fibers and staple lengths.



GLAZED-TILE WALLS are used throughout mill. Roving frames are 10x5, have 120 spindles.

AIR-CONDITIONING PREVIEW. After equipping the new rayon mill with machines that may handle a variety of fibers in the future, Mooresville Mills provided elaborate and precise air-conditioning systems. From the standpoint of employee comfort, the new mill is a superior one, since the various systems provide about 10° of cooling below outside temperature. From the standpoint of processing aids, the Mooresville's systems were designed not only to provide the best conditions for rayon in all departments but also to permit refrigeration in some of the departments should more cooling be necessary in the future. The simplest system is in the opening and picking departments; the more efficient booster systems are in the spinning and twisting departments.

The opener-picker room has 32 12-lb.-per-hr. Airco atomizers that can evaporate 384 lb. of water each hour. Four air-change units are installed on the wall with openings for outside and return air. Each unit supplies 5,000 cfm. of air. Pneumatically controlled damper blades apportion the amount of fresh and return air. Steam coils are installed over the return-air openings to boost the temperature as needed.

Opening-picking relative humidity is 55%. In practice, the systems are said to effect about 10° of cooling. There are 8.3 changes of air every hour, and 40 cfm. of air at 30 psi. operate the atomizers and controls. Only ½-hp. motors are required by the fans, and the maximum steam required at a 65° temperature differential between inside and outside is 430 lb. per hour.

CARD ROOM AIR WASHER. The air-washer system in the card room provides 55,000 cfm. of air through aluminum ducts. There are 10.5 changes of air per hour. The relative humidity can be controlled within limits of 50 to 65% as desired. The washer contains six spray wheels that disperse water supplied by 2-hp. pumps. While a total of 300 gpm. are sprayed into the washer, only a relatively small amount is taken up by the air. This large pumpage is said to insure a high saturation efficiency, keep down lint, and provide ample water in case refrigeration should be considered in the future.

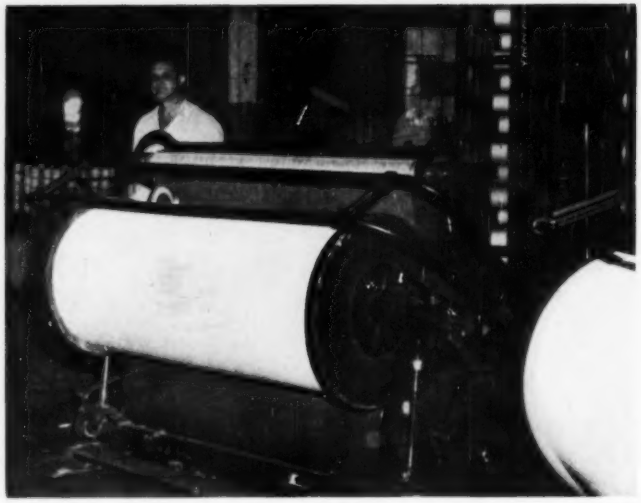
The fan requires 25 hp., and the spray wheels and pumps require a total of 16 hp. On very cold days or on days when machines are not running, heaters are placed in front of the washer.

SPINNING BOOSTER SYSTEM. Mooresville's new spinning room has an air-washer system, but humidity is not supplied entirely from the ducts. Booster atomizers are installed in front of each grille on the outside of the ducts in order to supplement the humidity emerging from the washer ducts. The volume of air from the duct is large enough to prevent the possibility of sweating and is also sufficient for refrigeration.

Air is put into the spinning room at a rate of 100,000 cfm. There are 13 changes of air each hour. The large spinning-room washer evaporates 2,740 lb. of water per hr., and booster Airco atomizers provide 1,340 lb. of water per hour. The washer is 15x12x9½ ft. and contains 15 spray wheels and three 3-hp. pumps. A 60-hp. motor drives the fan, and the range of relative humidity obtainable is 50 to 65%. About 146 cfm. of compressed air are required for atomizers and controls.

A booster system similar to the spinning system is installed in the basement twister room. The range of relative humidity obtainable is 60 to 70%. It provides 21.6 changes of air every hour, evaporates 2,260 lb. of water per hour through the ducts and 648 lb. through the atomizers. The washer capacity and the horsepower required for the various motors are proportionately less than the spinning system, and heating is controlled as in the other rooms. Foxboro temperature controls are used in all the systems, and stainless-steel tanks are used in all the washers. Non-clogging trash pumps are used to pump water from the tanks to the sprays; and a small, packaged refrigeration unit is installed in the office of the mill.

With a modern building, versatile machinery, and air-conditioning systems that are adjustable for careful handling of man-made or natural fibers, Mooresville Mills' new rayon mill has the physical characteristics of a mill that could process many types of fibers. In a few years, it may be called Mooresville Mills' multi-fiber mill.

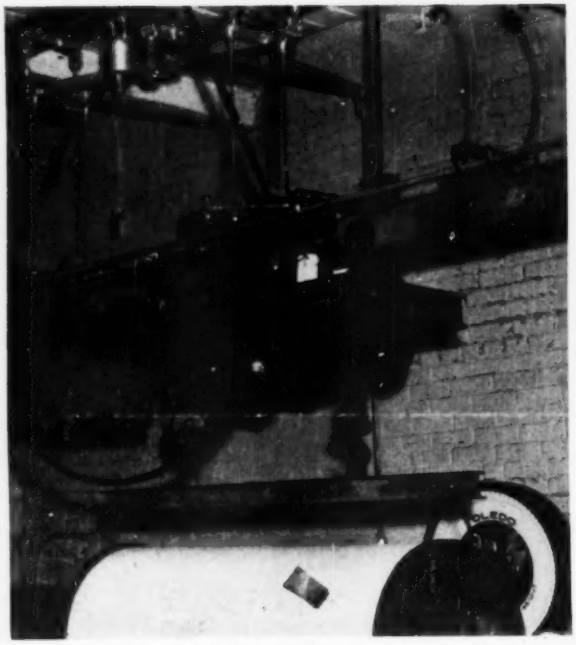


SECTION BEAM is ready to be lifted from warper by conveyor hoist for transport on inclined track to slasher room over 200 ft. away. This monorail installation saved two workers per shift at Graniteville Co., Graniteville, S. C.

HIGHLIGHTS: Manual labor amounting to two full-time workers per shift eliminated by beam-handling system — Outside rail carries a full beam from the warper room to the slasher room in 2 min., 5 sec.—Scales in track weigh and record weight automatically.

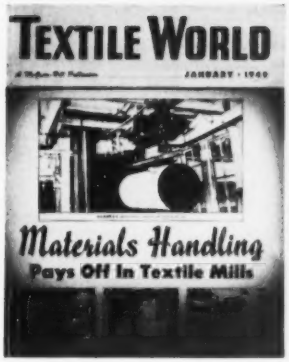
By E. DALTON WHITE
McGraw-Hill Atlanta Bureau

Graniteville Mill Installs



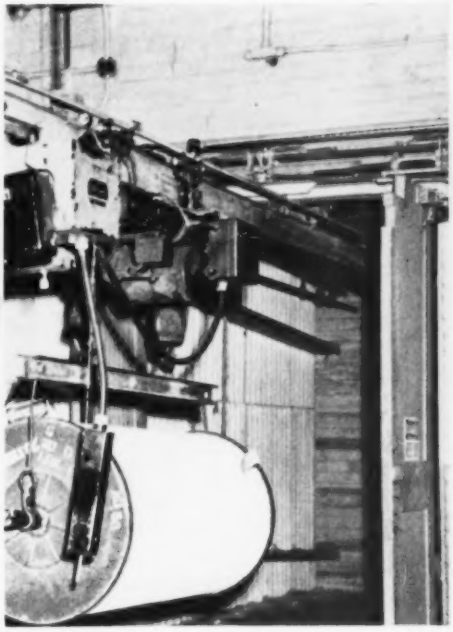
BEAM IS WEIGHED and weight is recorded automatically on scale built into the rail. Carrier has ¾-hp. motor with speed of 125 ft. per min. Hoist has ½-hp. motor.

DOORS OPEN and close automatically as beam trips switches on leaving warping department and entering



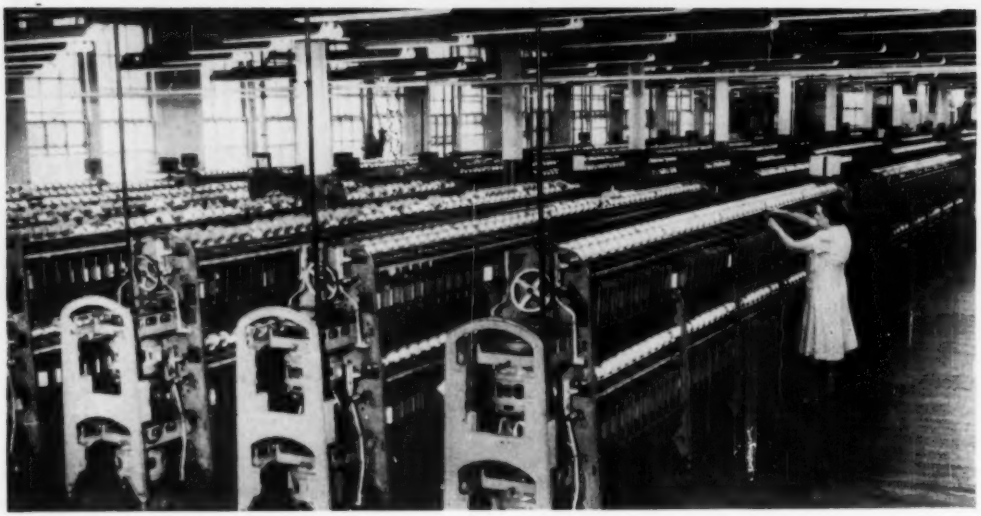
TRACK IS PROTECTED outside by a roof and asbestos siding. A fence below prevents passage under the track except at one point where steel strips are attached to the framework to catch the beam should it fall.

SECTION-BEAM CONVEYOR



slasher room on other side of bridge. Time from warping to slashing departments is 2 min., 5 sec.

BEAM IS LOWERED into the slasher creel after lifting from one of four two-tier storage racks in line with the slashers. Racks have a capacity of 100 beams.



FLUORESCENT LIGHTING; color conditioning of walls, ceilings, and machines; and dry-cleaned floors transformed an old multi-story building into an up-to-date throwing plant.

Equipment, Employee Benefits Keynote MODERNIZATION

HIGHLIGHTS: *Nylon-throwing plant has all new machinery — Instruments used to control processes, atmosphere—Color conditioning used throughout plant—Employee benefits considered important.*

By WILLIAM A. NEWELL
Assistant Editor, TEXTILE WORLD

"INDISPENSABLE," says Charles Chipman Jr., of this size-viscosity-recording instrument for nylon sizing.

A RUBBER-BELT CONVEYOR is used to carry stockings from looping and seaming to dyehouse.

TWO YEARS AGO, Chipman Knitting Mills, Inc., Easton, Pa., was faced with a problem of supply of sized and thrown nylon. Today an old multi-story building has been transformed into the needed up-to-date throwing plant. New equipment, fluorescent lighting, dry-cleaned floors, and color conditioning of both building and machines did the trick.

Nylon is processed at the rate of 40,000 lb. a week on 6 56-spindle Atwood redraw frames, 40 192-spindle Atwood double-deck twisters, 180 sizing spindles of both Universal and Foster machines, and 20 48-spindle Universal coners.

Several systems are in simultaneous use for segregation and identification of lots: tags with letter symbols, colored chalk, colored Scotch tapes, tints, and colored cone tips.

Charles Chipman, Sr., is a sound believer in color conditioning—and not just in one or two rooms. Every surface, building, or machine, except floors, has been painted in accordance with recommendations of Paint Div., Pittsburgh Plate Glass Co. Elevator

OPEN 24 HR. A DAY for workers is this small but well-equipped cafeteria.

INDIVIDUAL LOCKERS are provided at the throwing plant for employee belongings.

shafts, storeroom racks, covered interbuilding bridges, canvas trucks, etc. have all been treated.

Most machines are painted a light green; moving parts and electric fixtures are painted orange. Most walls have a dark-green dado, light-green or yellow upper wall. Where upper walls are light green, ceiling is yellow, and vice-versa.

Floors in the old mill were reconditioned and are maintained by the Tennant system of dry cleaning.

Processing quality is maintained by a well-equipped laboratory. Sizing solutions on all deniers are titrated at least once weekly, while sizing solutions on 20 and 30 den. are checked daily. Six oil extractions are performed weekly.

Size viscosity is tested automatically every 3 min. by a Norcross viscosimeter. If size viscosity fails to fall within a given range, an alarm automatically sounds. The mill management considers the instrument indispensable and feels that nylon-throwing quality can be increased proportionally with the elimination of human control elements.

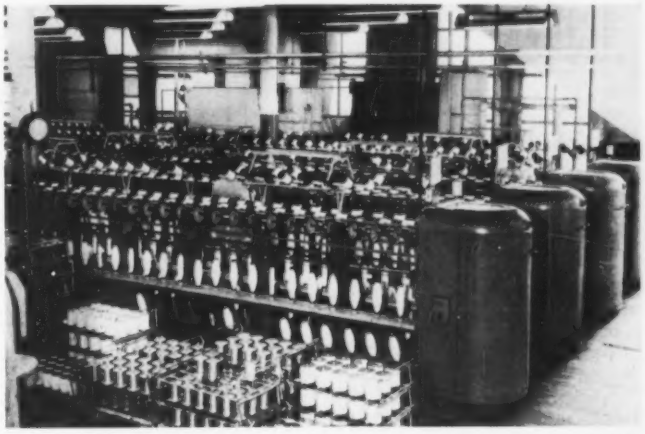
A lunchroom is maintained 24 hr. a day for use by mill employees. Brief refreshments may be obtained at any hour; and lunches, either purchased or carried, may be eaten there during lunch periods.

Other employee benefits include a first-aid room and individual lockers for each worker.

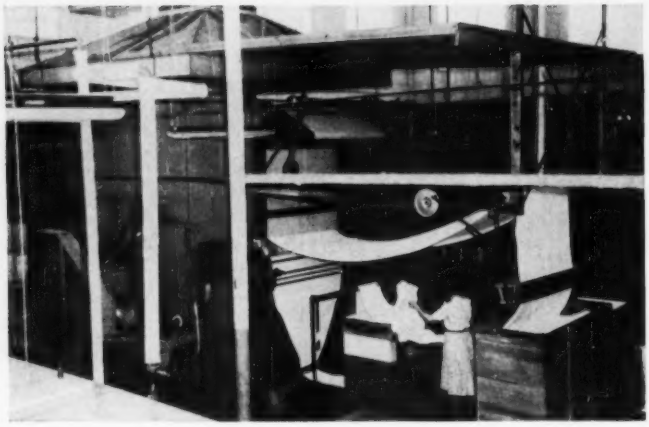
Humidity is maintained throughout the mill at 65%, except in the sizing department. Humidification system is by American Moistening Co.; recorders are Bristol.

A SAMPLE SPOOL is mounted at the end of redraw frames to aid new employees in learning to doff at the proper size.

COLORED CONES are cut like big clothespins and are placed on box sides to identify lots.

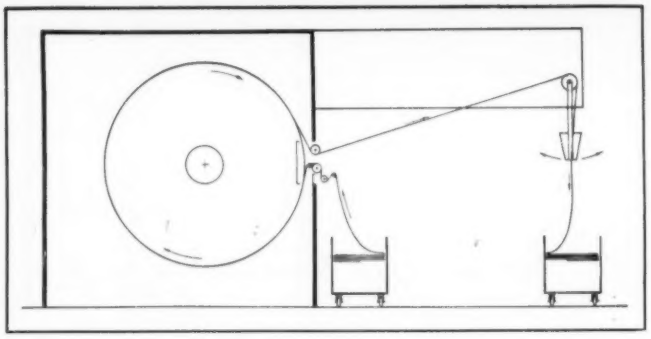


SPOOLS ARE HANDLED on skids which are moved by a hand lift truck. Air-conditioning equipment is in background.



SUCTION-CYLINDER DRYER *uses a blanket to hold knit fabric to central cylinder. Blanket can be seen in photo but is not indicated in sketch. Fabric being run is 168-in. tricot tacked edge-to-edge.*

Courtesy Proctor & Schwartz



HIGHLIGHTS: *More tricot going into outerwear—Color-fastness and stability required in circular and warp-knit fabrics—Good possibilities seen for Redman machine—Indications are tricot can be finished without tacking.*

By LESLIE L. WALMSLEY
Textile Research Dept.,
American Viscose Corp.

Trends in Knit Goods Call for Better FINISHING

MUCH EMPHASIS has lately been placed on warp knitting, especially of filament yarns, for such reasons as speed of production and non-ravelling qualities of the fabric. While circular knitting of filament fabrics accounts for a large production, warp-knitting is rapidly gaining ground; and it is supposed that, if the majority of filament fabrics are not now knitted on warp-knitting machines, they will be in the near future.

As in other fields, not only is one fiber used, but in many cases a combination of several fibers is knitted together. All the skill of the dyer is required for the successful finishing of these combination-fiber fabrics.

In order to describe properly the processes involved in the dyeing and finishing of knit fabrics, it is convenient to separate them into the various classes in which they are made. These are roughly as follows: *circular knitting*: cotton, filament-viscose rayon, nylon, wool, spun rayon, mixtures of rayon and wool, nylon and wool, and cotton and wool; *tricot knitting*: filament acetate, viscose, nylon, and a small amount of various spun fibers (cotton, wool, rayon, and mixtures of all these fibers).

VISCOSE FABRICS. Circular-knit filament viscose-rayon fabrics are usually put into the dyeing machine as received from the knitter. There, the scouring and dyeing are generally completed in one operation. The procedure is to run the fabric for 5 or 10 min. in cold water and rinse. This removes a large proportion of the lubricating oil which has been used for knitting purposes. Scouring material is then added which consists of 2% soap, 2% tetra sodium pyrophosphate, 1% pine oil, and ½ of 1% Calgon. If the soap is undesirable (and this may be true for many reasons, principally the presence of magnesium or calcium salts in the water), a synthetic detergent, of which there are many on the market, may be substituted.

After scouring material has been added, the necessary dyestuff is then introduced, and the dye liquor is slowly raised to the boil in approximately 30 min. The boiling is continued for about 10 min. after which common salt or glauber salt is added, beginning with 1% and running for 5 min. Double the amount of salt is added each 5 min. thereafter until a total of 20% is added.

After running for an additional 10

min., a sample is taken for shade; and after the correct shade has been reached, the dyebath is dropped, the cloth rinsed, and the material removed from the dyeing machine. The fabric is then extracted in a centrifugal extractor and dried. The dryer may be a loop dryer, or the fabric may be dried by means of the "Tubetex" process which guarantees an overfeed, thus minimizing stretch.

A third method of drying, used to a small extent in this country, consists of dressing the circular-knit fabric on a tube and pulling the fabric over a wire cage while hot air is blown through the fabric. The cages come in different widths, and a suitable width is selected for the fabric. The fabric is then rolled up on the dryer. In some cases, the fabric is turned inside out before drying. This process is somewhat slow and is not in great use at the present time.

After the material has been dried, it is generally calendered for finish and also to straighten the courses which may have been distorted during drying.

In addition to these methods of drying, an improved type of dryer is known as the suction-drum dryer. On this machine, the fabrics are run over a large perforated cylinder, and are held by a cotton blanket. The fabric is carried between the cylinder and the cotton blanket, and the blanket rotates with the cylinder. Hot air is blown through the cloth from the outside to the inside of the cylinder while it is rotating. (See sketch and picture.)

A method of overfeed has been devised, so that the correct overfeed can be selected for the fabric, thus eliminating the possibility of undue stretch. This machine is made in sufficient width so that two rolls of fabric can be dried side by side, and speeds up to 60 yd. per min. can be obtained, depending upon the fabric type and weight. After running over this dryer, any further finishing is generally unnecessary, although in some cases it may be desirable where special finishes are added.

COTTON GOODS. Circular-knit cotton fabrics are normally given a kier boil for pastel shades. Approximately 3% caustic soda and a small amount of synthetic detergent are used. This process is carried on at the boil for approximately 4 hr., after which the fabric is rinsed and is removed from the kier ready for bleaching and dyeing.

When peroxide bleaching is used and the shades demand it, or where whites are desired, the bleaching can be done in the kier. As in the case of woven cottons, a continuous bleaching range is used for circular-knit fabrics when the yardage makes it economical. If there is sufficient yardage, the use of a bleaching range, either the Du Pont or the Becco, will cut down the cost of bleaching to a considerable degree. A kier boiling bleach is usually necessary because of fragments of cotton seeds and other extraneous material contained in the cloth; for, as a general rule, carded cotton is used. When combed cotton is used, kier boiling is unnecessary, and a bleach is all that is required for light shades.

In some instances, circular-knit cotton fabrics are dyed and bleached in one operation. This is done by incorporating sodium perborate or sodium peroxide in the dyebath. When sodium perborate is used, there is a light caustic boil as well as bleach, since the sodium perborate breaks down to caustic soda. Approximately 1 to 2% of these chemicals are used when combined with the dyestuff. When either of these methods is used, great care should be exercised in the choice of dyestuffs; otherwise, it will not be possible to get the correct shade.

Only those dyestuffs which will withstand the light bleaching action, or the action of caustic soda, can be used. The dyeing is carried out as previously described under filament-rayon dyeing, and the goods are then extracted and dried as before described.

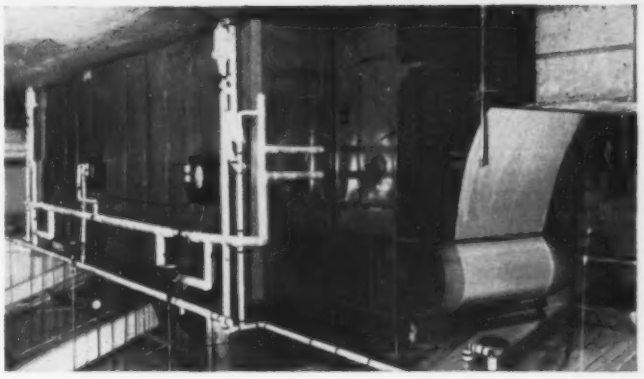
WOOL FABRICS. Circular-knit woolen or worsted material requires preparation before dyeing, as upon the correct finishing of these fabrics depends to a large degree a salable cloth.

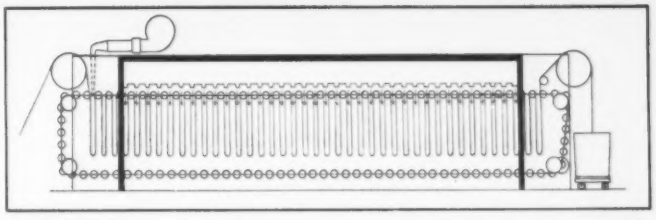
Woolens for dresses are usually subjected to a light fulling and scouring operation. The purpose is (1) to clean the fabric of lubricating oils and dirt, (2) to close the interstices of the fabric, and (3) to bring the fabric to the desired weight per yard. Fulling is usually performed without weights and with a rather light soap; the time varies from 10 to 20 min., after which the fabric is scoured in the dolly washer and rinsed until clear.

Some fabrics, especially very lightweight, are not fulled. For them, scouring is all that is necessary. Great care should be taken during the rinsing operation after the scour so that the fabric emerges free from soap, or the dyed fabric will appear cloudy.

It is usually good practice to leave the fabric slightly on the light side, speaking in terms of weight per yard, after fulling and scouring. Dyeing usually adds a slight amount of weight to the fabric as a result of the slight felting which takes place in the machine. The increase in weight could be especially noticeable if the dyeing operation was prolonged because of difficulty in achieving the correct shade. Were the fabric originally fulled and scoured to the exact weight, it would probably be too heavy after the dyeing operation, and a loss in goods would be incurred.

Circular-knit woolen fabrics for



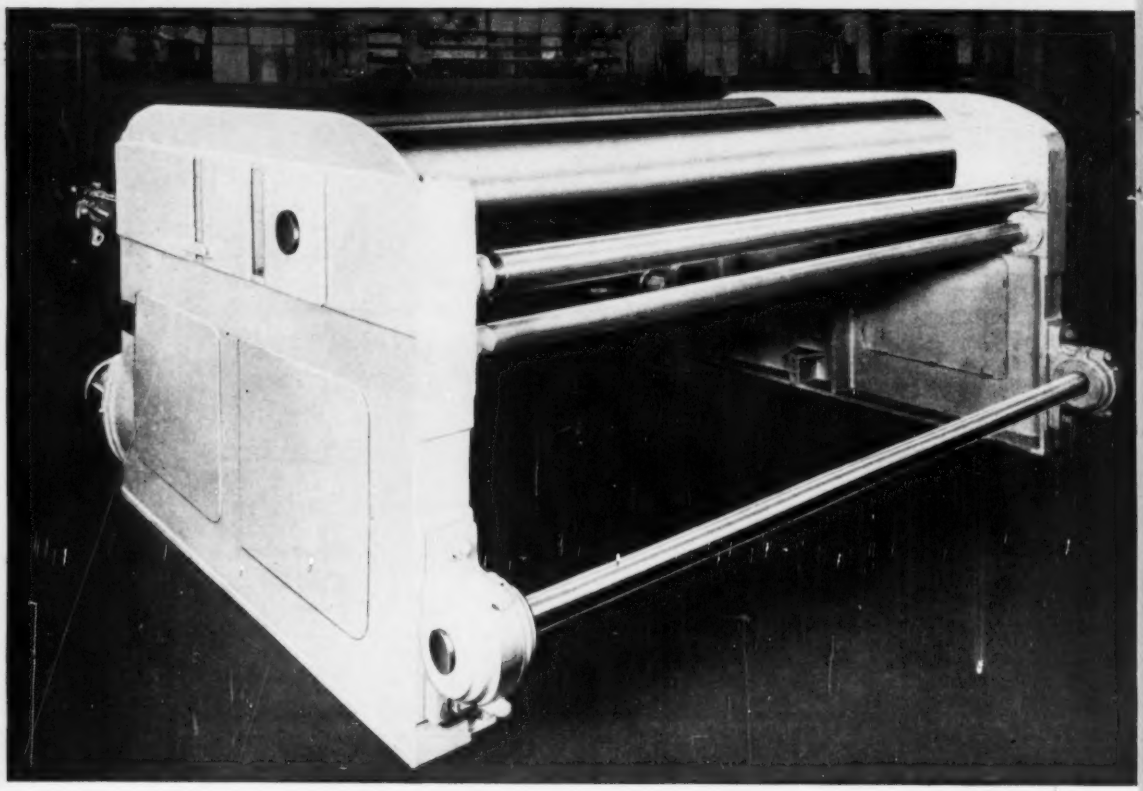


***LOOP CURER** handles knit fabrics with little tension. Use of melamine resins and other stabilizing finishes on wool goods are growing. Sketch shows how loops are formed*

Courtesy Proctor & Schwartz

Where would you use this machine?

☐ WATER MANGLE ☐ EXTRACTOR ☐ CAUSTIC PADDER



Right—no matter what your answer! The amazingly flexible Butterworth 3-roll Horizontal Padder can be used as a water mangle in front of dry cans, as an extracting mangle, or as a caustic padder in a mercerizing range. It calls for only a minor change in boxes. Or with a change of rolls, the machine becomes a 15-ton rayon calender. Rolls of any diameter can be used without new parts or major revisions.

Check these advantages:

(1) Even, adjustable pressure
(2) Positive pull
(3) No accumulation of cloth at the nips because drive is to exit roll
(4) Bearings are in fixed guides
(5) All controls within easy reach of operator
(6) Easy to maintain
(7) Streamlined in appearance
(8) Available with covers to prevent splashing and leaking of liquid.

The Butterworth 3-Roll Horizontal Padder may be the machine you are looking for—to speed up production, reduce seconds, increase profits. Let us give you full details.

BUTTERWORTH

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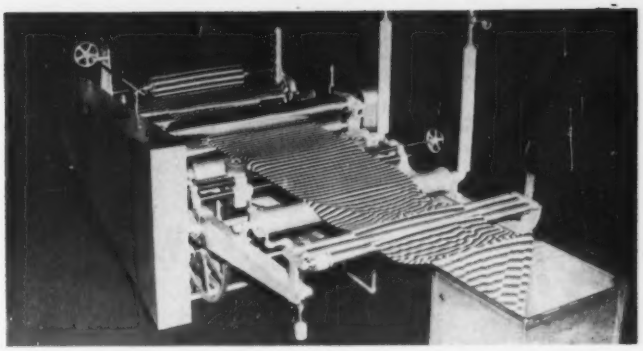
dresses are usually dyed by means of acid colors; and, to accomplish this, the machine is loaded with the material, after which approximately 20% glauber salt by weight of material and 2 to 4% sulphuric acid or formic acid by weight of material is added. The material is circulated cold through the machine for a few minutes, after which the temperature is raised slowly to the boil in approximately 1 hr. The boiling is then continued for approximately 30 min., when a sample is taken for shade. After the desired shade has been reached, the fabric is rinsed slowly to cool off; and when the fabric is removed from the machine, it is extracted in a centrifugal extractor and dried.

The suction-cylinder dryer is an excellent machine for drying wool goods, as the fabric can be dried at high speeds to the desired width and given an overfeed, which prevents the fabric from being unduly stretched. A final operation is usually a semi-decating to give a more desirable hand and appearance.

STABILIZING. Over the years, little attention has been paid to the stability of circular-knit fabrics; and it is believed that the "Tubetex" system was the first which incorporated an overfeeding device in order to prevent undue stretching, which was the inevitable result of the method by which circular-knit fabrics previously had to be finished. Of late, there is the Redman process which shows great possibilities in the proper relaxation of fabrics during the finishing processes, so that the fabric will have a reasonable degree of stability when made into garments. [T.W., July '48, p. 150]

It has been a practice lately to process wool goods for dresses with a melamine resin in order to make these fabrics shrink-resistant to washing as well as to normal wear, thereby giving greater consumer satisfaction. For similar results in wool fabrics, there are several processes involving wet chlorination. These processes are a great improvement over the older methods of chlorination, inasmuch as the shrinkage-resistance is improved, and the hand of the fabric retains much of its original characteristics. Goods treated with some of these chlorination processes may be dyed pastel shades of pink and blue which make them extremely suitable for infants' wear, because pastel shades are desirable for this use and washability is one of the major requirements demanded from the cloth.

It is unfortunate that in all of these processes, the original wool hand has been impaired to a greater or less degree; and as the beauty of a wool fabric depends to some degree upon its soft touch, this change in the wool characteristic, no matter how slight, by means of the application of resins or chlorine, is somewhat undesirable. Therefore, the field for the stabilizing of wool materials, especially those which must be subjected to washing processes, is still open.



***STEAMER AND CALENDER** is part of system which takes into consideration need for stability in knit goods.* *Courtesy Tubular Textile Machinery Corp.*

RAYON AND WOOL. The processing of rayon-and-wool circular-knit goods follows quite closely that of all-wool knit goods, except, however, as a general rule, the fabric is not fulled, but is usually scoured and dyed.

Dyeing includes the use of neutral-dyeing wool colors and dyes for rayons which will not dye wool; it thus is possible to obtain a good union by selecting the proper dyestuffs.

The dyer has, at the same time, complete control of the dyebath. If colors are selected which are union colors—that is, those dyestuffs which will dye wool and rayon—and great care is not exercised, the wool will tend to dye darker than the rayon. This difference is especially true if the correct shade is not achieved during normal dyeing time, and it is necessary to prolong the dyeing.

When it is desired to dye the wool content one color and the rayon another color for a balbriggan effect, the yarn is usually produced by twisting an end of rayon and an end of wool together. The methods used are as previously described for rayon and wool, excepting where wash-fast shades are desired. For such shades, the wool is first dyed by the use of milling colors which are normally fast to alkalies. The rayon is then dyed at a low temperature by the use of sulphur colors. A protective agent is used to prevent the wool from being damaged during the process.

When wool circular-knit fabrics are dyed for bathing suits, weak acid-dyeing colors are used, and specially selected ones are chosen. The dyestuff manufacturers, as a general rule, list those dyestuffs which are fast to salt water; and almost every dye manufacturer carries a line of such dyes.

WARP KNIT. The second class of knitted fabrics is the tricot or other warp-knit fabrics which are knitted as flat fabrics rather than as tubes and are knitted in widths up to 168 in. The bulk of tricot fabrics at the present time is made from acetate rayon, while a small amount of viscose is used. Such fabrics, however, are being made in increasing quantities from acetate and viscose blends. The use of nylon in tricot fabrics is increasing rapidly.

Present practice in handling acetate tricot is to knit the fabric 60 yd. in length, take it off the knitting machine, examine for defects, and tack edge to edge.

The fabric is next passed over a presetting machine in doubled width, at which time it is passed through a boiling-water bath with an immersion of approximately 20 sec. After the fabric emerges from the boiling-water bath, it is usually, but not always, subjected immediately to a cold-water spray or passed into a cold-water bath. The purpose of this procedure is to prevent creasing or crack marks in the form of "crowsfeet" or lengthwise creases which will occur in the dyeing if great care is not exercised.

A few finishers do not pre-set, but rather take the fabric directly to the dyebath. The dyeing and scouring are usually accomplished in one operation, and the scouring formula is 2 to 4% synthetic detergent, 2% tetra sodium pyrophosphate and ¼ of 1% Calgon. The scouring chemicals are added to the bath, and the dye is added after 5 min. while the dyebath is cold.

After the material has circulated through the dye liquor for 5 min. cold, the temperature is raised to 160° to

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175° F. in approximately a half hour. The temperature is maintained for 30 min., at which time a sample is taken for shade. When the correct shade has been attained, the dyebath is slowly rinsed to cool the fabric; and after rinsing, the material is removed from the dyeing machine.

In some cases, the fabric is extracted in a centrifuge extractor, care being taken that the fabric should not remain in the centrifuge longer than 30 sec., otherwise extractor marks after drying will result. In other cases, the fabric is squeezed through a padding machine or is suction extracted and dried.

The fabric in some cases is carried over a spreader and into the suction-drum drying machine. Upon emerging from the machine, the sewed edges are cut and the fabric is dried usually at 54 in. width. If the fabric should be desired full width as in the case of underweight fabrics, the sewing is usually removed after extracting, and the fabric dried open width on a pin tenter frame to 108 in. After emerging from the tenter frame, the edges are cut, and the fabric is rolled ready for the cutter.

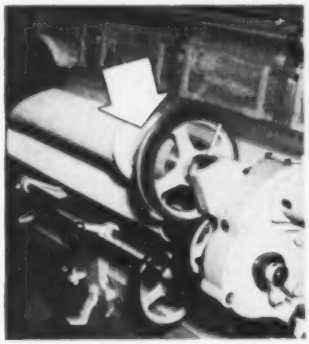
TACKING ELIMINATED. Sewing the selvages of tricot fabric together is for the purpose of preventing the selvages from curling during dyeing. This tacking is rather expensive; and if the reason could be avoided it could be dropped as a useless operation. With this in mind, a machine has been developed by the Textile Research Dept. of American Viscose Corp. to process an acetate-tricot fabric in such a manner that it is not necessary to tack it. The fabric is pre-set open width and dyed without sewing the selvages together, after which it is extracted in the normal manner. Sufficient yardage has been processed on this machine to indicate that the process is a complete success, and fabric thus treated shows no signs of crease or crack marks and is no more difficult to process than woven goods. The edges of the fabric show no tendency to curl. The work which has been done so far has been on 84-in., or half-width, fabric. A full-width, or 168-in., machine is now under construction, and there is every reason to believe that no difficulties will be encountered as a result of the extra width.

Advantages to be gained as a result of this machine are:

1. *Elimination of the tacking process*, and, as a consequence, elimination of untacking also.

2. *Possibility of knitting longer yardages on the knitting machine*, thus saving time now lost in stopping the machine to cut off piece lengths. The yardage knit on the machine is limited only by the capacity of the take-up roll and the physical handling of that size roll. The knitted cloth is wound on a cardboard shell which is removed with the roll of cloth when the roll is taken to the pre-setting machine.

3. *Courses of the fabric are absolutely straight.* As a general rule, when the goods have been processed by the tacked method, the course lines are quite wavy and require straightening, otherwise the cutter experiences difficulty when making garments. After the drying operation on the wide machine now being developed, it is possible to send the goods directly to the cutter.



***PASTEBOARD TUBE** on tricot take-up roll can save time in removing cloth from machine.*

Experimental work has been conducted with viscose tricot; and preliminary results indicate that it would be possible to pre-set these fabrics, and at the same time gain some measure of stability. Experiments with nylon fabrics indicate that this process is inadequate for the setting of nylon. However, further study is being made with view to correcting this deficiency.

NYLON FINISHING. The present method of processing nylon tricots is to pre-set the fabric in an autoclave with steam at temperature of approximately 260° F. for 10 min. The procedure is rather unwieldy, and it is hoped that a simpler and continuous form of pre-setting will soon be devised. The process for dyeing nylon approximates that for acetate tricot, as does the drying.

There are indications in knit-goods dyeing and finishing that concern is being felt over the lack of dimensional stability. In recent years, several processes have been devised to control the shrinkage of knit goods. Knit-goods finishers have been running behind woven-goods finishers in quality control of both stability and color fastness, due perhaps to use of most knit goods in underwear which may not require great stability or color fastness. Emphasis is usually passed on to the purchaser that such garments should be very carefully washed in luke-warm water.

More and more knitters, however, are producing outerwear fabrics, and some standard of stability and color fastness on which the consumer can depend must be developed. Guarantee of a minimum shrinkage is needed, and it is in this field that great hopes are placed in the Redman process.

The Redman process, at present, is too new to be properly evaluated; but if it should do for knitted fabrics what the Sanforized process has done for woven cottons and the various stabilizers have done for woven rayons, it will be a great step toward correct finishing of knitted fabrics.

COLOR FASTNESSES. The second possible weakness which exists in knit-goods finishing is lack of guaranteed color fastness. Woven-cloth finishers, including finishers of rayons, have led in the application of vat dyestuffs. It is regrettable that up to the present time no similar reputation for color-fast fabrics has been achieved by knit-goods finishers in general. It is understandable that this deficiency is due to the methods of processing knit goods; the goods are extremely difficult to process with vat dyestuffs, whereas woven-cloth finishers have methods which lend themselves readily to the application of fast colors.

It is regrettable that knitters at large have not demanded for their fabrics the same fastness that has been achieved in woven materials. If pressure were sufficiently great, some means would be found whereby fast colors could be applied. For example, when the military demanded fast colors for circular-knit cotton fabrics during the war, color fastness was achieved. Millions of yards of vat-dyed khaki and olive-drab goods were successfully prepared. However, following the conclusion of military demand and the return to civilian work, there have been few or no fast-dyed colors produced.

Sporadic attempts have been made by several of the better companies to correct this deficiency; but, in a good many cases, without evidence of appreciation. Emphasis has been placed on low cost rather than quality. The writer feels that no real progress can be made in this field until the garment manufacturer is thoroughly aware of the selling possibilities of a product guaranteed both as regards shrinkage and color fastness.

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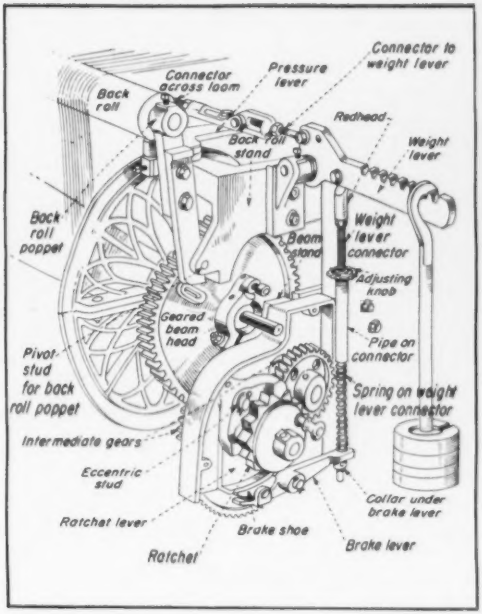

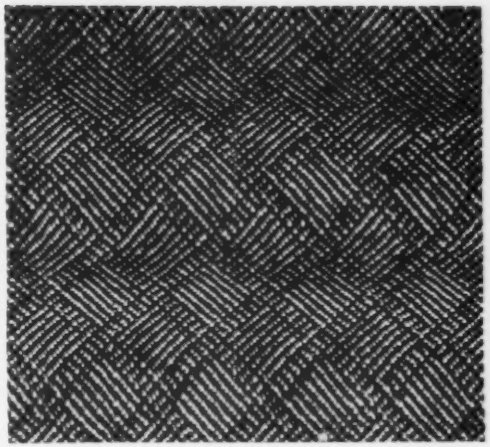

TYPICAL LIGHT AND DARK STREAKS fillingwise across fancy worsted denote improper adjustment of let-off or take-up or both.

FULL AUTOMATIC LET-OFF by Crompton & Knowles is motivated by changes of tension on whiproll. It permits warp beam to turn till tension returns to original setting. It is unnecessary to change the weights from start to finish of warp.

LET-OFF ADJUSTMENT Can Make Unmerchantable Cloth

HIGHLIGHTS: *Imperfections which cannot be repaired result from lack of uniformity in warp tension—C & K full automatic let-off motion is self-adjusted for smooth action—Weight hanger must be horizontal.*

By EUGENE P. SCHREMP
Consulting Editor, TEXTILE WORLD

THICK AND THIN PLACES and uneven weaving are imperfections which cannot be repaired. Not only seconds but unmerchantable cloth may result if these faults are not corrected. In order to produce evenly woven fabrics, the let-off motion must keep a uniform tension on the warp ends. It must also allow the beam to turn, unwinding exactly the same length of yarn that the cloth roll takes up.

If this condition can be maintained, evenly woven fabrics must result. Unfortunately there are many conditions governing the let-off and take-up motions. Uneven warp tension in beaming, changes in humidity, mechanical failures, and the human element, all tend to produce woven fabrics with light and heavy places or uneven weaving.

Neglecting to remove weight as the warp is depleted is one of the most common causes of uneven weaving on the old style beam-band tension let-offs. Crompton & Knowles automatic let-off motions help to correct this trouble by using a system which is self-adjusting and requires no change in weight from the beginning to the end of the warp.

The whip roll is mounted so that it moves parallel with the beam. As the warp tension increases in weaving, the whip roll will move forward thus raising the weight hanger. This motion at the same time releases the brake which allows the pawl to oscillate and permit rotation of the escapement wheel.

AUTOMATIC ACTION. The gear on the beam is meshed with a chain of gears connected to the escapement wheel. This beam gear turns until the necessary amount of yarn is delivered to ease the whip roll, lower the weight hanger, and cause the brake to clamp the pawl and stop the motion from operation until the warp tension is increased again to the starting point.

The weight hanger must be adjusted to maintain a horizontal position. At the start of a warp, place some weight on the spindle and raise the weight arm, turning the hand wheel to place tension on the warp. The adjusting collar should be set so that when the weight hanger is in a horizontal position it will just relieve the pressure of the brake shoe on the pawl. It will also be necessary to put an initial tension on the spring by means of the adjusting knob. When this adjustment has

(*Continued on page 204*)

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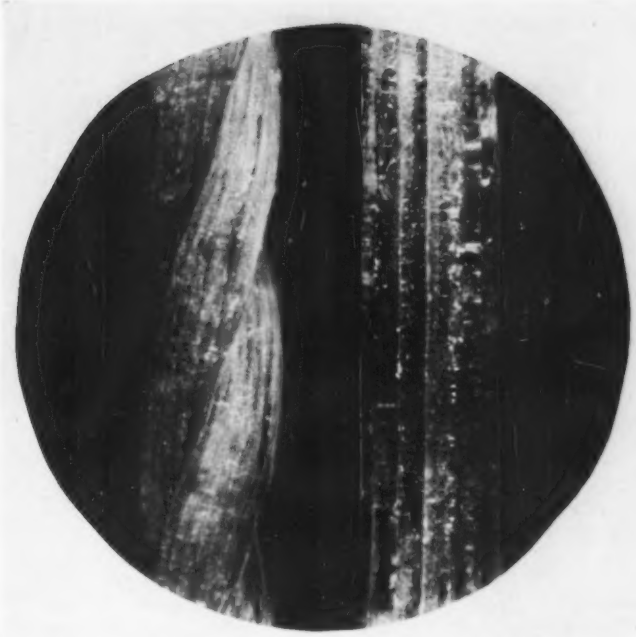

NEW MONOCORD NYLON sewing thread (right) is compared with usual twisted nylon thread (left) in photomicrograph.

"MONOCORD" Joins Family Of Textile Yarn Forms

HIGHLIGHTS: *Welding together the filaments of multifilament nylon produces Nymo, the first non-twisted thread—Monocord principle is product of Belding Corticelli research—Textile use seen in spinning tapes.*

A NEW PHYSICAL STRUCTURE called "monocord," has been added to the family of textile yarns. It is a continuous, multifilament strand with the filaments cemented, or "welded," together. It is the result of development and research by Belding Corticelli, New York, and is offered by that firm as the first successful production of non-twisted thread in 25,000 years of thread making.

Neither a monofilament nor a coated or resin-treated thread, monocord, produced by a new process, eliminates the spirals and ridges of traditionally twisted thread. "A monocord will not kink, snarl, split, or ravel," said Richard T. Kropf, director of research for Belding Corticelli, in introducing the new thread. "It exhibits exceptional sewability and can be made of almost any fiber, synthetic or natural."

NYLON IS USED. The first monocord manufactured on a commercial scale by Belding Corticelli is made of nylon and known as Nymo. According to Mr. Kropf, it combines the outstanding attributes of nylon with the special advantages of the new non-twist method of thread construction. Since the production facilities for Nymo are still limited, the new thread at the present time is to be made available only for certain industries. The industries receiving earliest attention include the underwear and corset field and bookbinding. The next group on the priority list includes the shoe, luggage, and glove industries.

As indicated in the illustration, Nymo is made up of an untwisted bundle of nylon filaments which have been so welded together that they form a thread of one cord, without twist and without some of the drawbacks of standard twisted thread. This new thread avoids the raveling of twisted thread and the pushing back of one broken strand; it also lacks the saw edges of twisted thread, thus reducing the friction and drag through the needle's eye and wear of other machine parts.

The work of bringing Nymo to the

(Continued on page 216)

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Continuously variable slits for smooth, precise settings.

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ACCURACY:

Photometric accuracy to 0.5% transmission or 1% absorbance.

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Accommodates large cells up to 50 m. m. path length in standard cell carrier.

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Easily-attached Model "B" accessories will be available for special types of measurements and for added convenience and accuracy. Write for details.

The new Model "B" Spectrophotometer is by far the outstanding routine instrument available. It provides advancements pioneered in the Beckman Quartz and Infrared Spectrophotometers but never before offered in a low priced instrument. These advantages are important because they combine simplicity, convenience and versatility without sacrificing accuracy and reliability.

The Model "B" has better ultraviolet performance ... better resolution ... better wavelength and photometric accuracy ... and more freedom from stray light than any other instrument in its field.

A descriptive bulletin on the Beckman Model "B" Spectrophotometer will gladly be sent on request. Write today. *Beckman Instruments, National Technical Laboratories, South Pasadena 12, California.*

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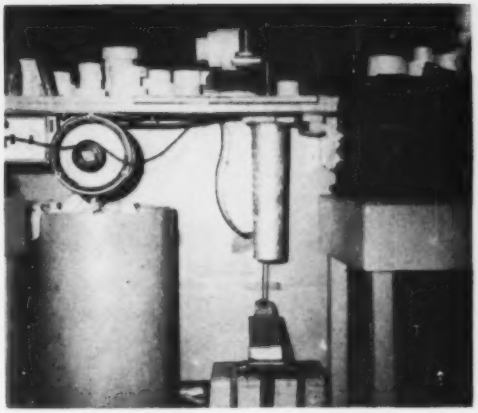
TRANSFER OPERATOR is using pedal-actuated stamper for labeling hosiery at Harris & Covington plant.



PEDAL-OPERATED MACHINE seen from below discloses mechanism and can for used tape.

HOSIERY STAMPING
Stepped up by Mechanization

HIGHLIGHTS: *Replacement of hand irons by machines gives less fatiguing labor and greater production per operative—Stamping machine may be pedal operated or semi-automatic—Harris & Covington in South and Trimfit in North make gains of 28 to 100% with these two types.*

By L. J. WILLIAMS

HOSIERY MILLS which have replaced the hand irons customarily used for impressing transfers on the toes of stockings with mechanical stampers to do the same thing have found increased efficiency through greater production per operative. For the operative, too, the change seems for the better.

EMPLOYEE FATIGUE REDUCED. Applying transfers to an average production of from 500 to 700 doz. pr. per 8-hr. day with conventional methods requires a total lifting exertion of 9,000 to 12,000 lb. or 4½ to 6 tons per day for the operative. The transfer iron for conventional methods weighs on an average of 23 oz. or nearly 1½ lb. It is necessary to lift this weight 12 times for each dozen pairs and 6,000 times for a daily production of 500 doz. pr., or 8,400 times for 700 doz. pr. This lifting results in considerable fatigue for the operative.

Among the available machines, some are pedal operated and others are automatic to the extent that they require only to be fed.

Harris & Covington Hosiery Co., Inc., High Point, N. C., manufacturer of half hose, has completely revamped the transfer-applying process in its plant, discarding all hand irons and installing mechanical stampers of the pedal-operated type made by Textile Machine Works, Reading, Pa. Maximum production obtained by each employee using a hand iron was 700 doz. pr. per day. It varied down to 500 doz. pr., depending upon experience and skill of the individual. Production was limited because the operator had to lift the transfer iron up and down with the right hand from 6,000 to 8,400 times daily, leaving the left hand to guide the transfer paper and turn the toe end of each pair of hose backward upon completion of the cycle.

FOOT PEDAL ACTUATES MACHINE. The new stamping machine has a pedal which is used by the right foot of the operator for bringing the transferring iron downward upon the hose. Operatives at Harris & Covington Hosiery Co. are now obtaining a production of 900 doz. pr. per 8-hr. day, an increase of 28% above production previously obtained.

As there is no lifting effort on the part of the operative, fatigue is greatly reduced for the same amount of work. Although the operative pushes the pedal down with the foot only light pressure is necessary and no lifting is required as a spring brings it back into position.

Because of simplicity of construction of the stamping machine, the cost of maintenance is low. The machine consists of a switch box and heat-control unit connected to the transfer-applying arm. A toggle switch on the switchbox turns the heat to the iron on and off.

The transfer iron is mounted on a vertical shaft approximately 3 ft. long, at the top of which a crooked neck carrying the iron extends downward for about 6 in. The shaft is hollow to carry the electric wires from the heat-control unit. The shaft moves about 4 in. up and down in bearings. A spring keeps the shaft pushed upward. A pedal mounted on three-legged stand moves the shaft downward.

OPERATION. The transfer-applying operator sits on a stool in front of the

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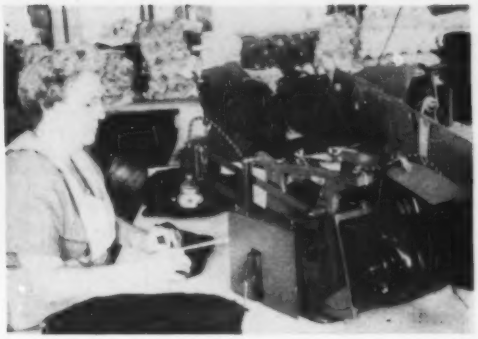
A LEARNER at Trimfit Hosiery Mills is operating at 500-doz.-pr. rate. Stamping action of arm is automatic.



A TRAINED WORKER at Trimfit is stamping 1,100 doz. pr. daily after three weeks' practice.

stamping machine. She turns on the heat for the iron by pushing the toggle switch to the "on" position. There are tables beside her, one on the left and another on the right. About 50 doz. pr. of hose in groups of 1 doz. are placed in layers on the left-side table. The operative takes 1 doz. pr. from that table and places them in position under the transfer iron. The transfer tape from a conveniently supported roll is placed over the toe end of the hose.

The operator pushes the pedal downward with the right foot, bringing the transfer iron into contact with the tape and the top pair of hose. She then releases the pedal and the transfer iron moves upward out of contact with the hose due to the action of the spring.

The top pair of hose is then turned back by the operative and the tape is pulled over one space, making the second pair ready to receive the downward stroke of the iron. This process is repeated for the dozen pairs in the stack. When all have been stamped, they are placed on the table to the right of the operative.

Layers 1 doz. deep are also maintained on this right-side table. A piece of paper separates each layer from the one above and below it. By putting the largest possible number of dozens to each layer of 1-doz. thickness and running these layers up to about 1 ft. high, the transfer operative is kept well supplied and handling is reduced. A supply employee replenishes the unstamped hose and removes the finished production.

A can directly under a hole in the table to the left of the transfer operative is provided to dispose of the transfer tape which has been touched by the transfer iron. Unused rolls of tape are kept on the table near the worker or can be stored at a central location for ready supply to all machines.

SEMI-AUTOMATIC MACHINE. Trimfit Hosiery Mill, of Philadelphia, Pa., is the first northern hosiery plant to install the semi-automatic-type transfer-applying machine which has resulted in greatly increased production at this process. This electrically operated machine is made by McNaughton & Co., Knoxville, Tenn. It is being marketed by Charles B. Paulus, 1605 E. Cliveden St., Philadelphia, Pa. By using it, Trimfit has increased production at the transfer process from 75 to 100%, depending upon the skill and dexterity of the operative. It is the usual practice at this plant for a beginner on the machine to turn out 500 doz. pr. per day and gradually increase to 1,000 or even 1,500 doz. pr. The operative must be given time to gain proficiency in using the machine.

This machine consists of a housing enclosing two joined levers pivoted on short shafts at the inner end to the housing wall. The lower lever is actuated by a set of cams in the center and by a spring at the inner end. The ends of the levers outside the housing support the transfer iron. The cams are on a shaft with a pulley which is driven by V-belts from an electric motor. The spring pulls the lever and iron downward on its outer end to make contact with the hosiery, and the action of the cams through the motor, pulley, and shaft brings the lever and transfer iron upward. The iron is held in the maximum upper position by an automatic control until the operative is ready for it to move downward to the hosiery. The operative can set the machine so that it will make one downward stroke slowly and then stop until she becomes familiar with it.

The machine normally has three speeds: low, medium, and high. Operators begin with the low speed and produce about 500 doz. pr. per day, and then later shift to medium and high. A medium production is around 1,000 doz. pr. a day; 1,500 doz. pr. is the highest production likely to be attained. The operative starts the motor and takes 1 doz. pr. at a time and places the toe end of the hosiery directly under the transfer iron. Using her left hand to hold the dozen pairs steady and to guide the transfer paper, she turns the toe end of each pair backward after the transfer iron has completed a downward movement. The operator, of course, regulates her speed in turning the hose toe ends backward in accordance with the speed of the machine. She does the turning while the lever is moving upward and just before it starts the downward movement. The operative has only to start the machine by pushing the switch and to manipulate a dozen pairs in place under the transfer iron. Her work is changed from lifting a 23-oz. weight many thousands of times per day to exercising skill and dexterity in turning the toes of the hosiery backward in harmony with the speed of the transfer-applying machine.

BENEFITS ATTAINED. Both employer and employee will receive benefits by using the mechanical transfer-applying machine. The worker can gradually increase her production by as much as 100%. Although the new piece-work rate would be less than the old rate, she would still be getting a higher income for work that does not require lifting as much as six tons per day. After she attains a production of from 1,000 to 1,500 doz. pr., the pay of the worker will be much better, while at the same time the unit cost to the manufacturer is lower than formerly.

The McNaughton machine has a wide variety of applications, but it is being used at present only on half hose. For a mill manufacturing under several brands, separate transfer irons can be provided for each trademark and properly attached to the machine when the particular line is being run through.

These wool socks ARE TRULY WASHABLE...

Made to size, they will stay to size for the life of the fabric! Rub them! Tub them! . . . washing will never affect the shrink-resistant qualities

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Schollerized
WASHABLE WOOL
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The SCHOLLER WOOL SHRINKAGE CONTROL PROCESS° removes the primary cause of wool shrinkage—matting or felting—without any effect upon the inherent resiliency, elasticity, texture, feel or "hand" of the original wool. The treatment of the wool involves the addition of no foreign materials, therefore no change in weight. Appearance is unchanged while comfort and useful life of the processed wool fabric is greatly enhanced. The strength of the Schollerized yarn is generally the same or greater than the original. Extremely flexible in application, wool may be Schollerized in the raw stock, tops, skeins, packages or fabric.

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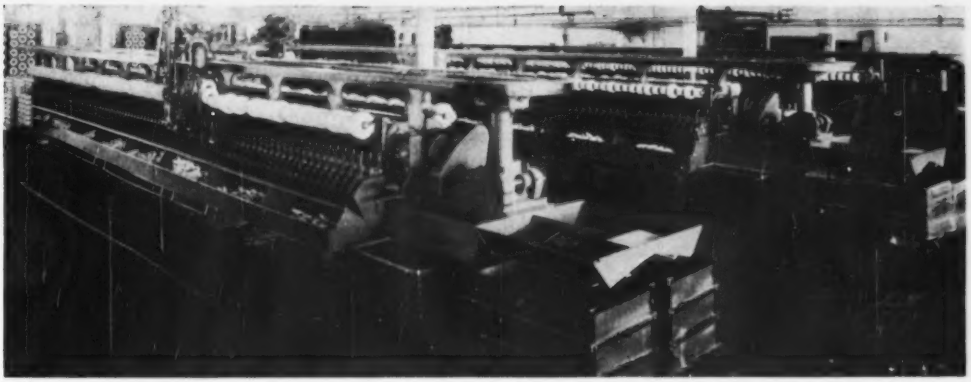

SPOOLER tie-ups are considered satisfactory if failures do not exceed 3%. Some mills achieve close to 1%.

SPOOLER REJECTS Gage Spinning-Spooling Quality

HIGHLIGHTS: *Breaker-type snick plates should be set at 0.021 in. for 30s yarn—Spooler tie-up satisfactory if total failures do not exceed 3%—Too short a taper on warp-wind bobbins is most frequent cause of sloughs.*

By L. M. HOWELL
Howell-Wilson Associates

SPOOLER REJECTS or tailings are divided into four main classifications: (1) bobbins returned to the spooler, (2) sloughs, (3) tangled bobbins, (4) strips. The first three added together give the total tailings from the Barber-Colman spooler.

The bobbins returned to the spooler for handling result from these causes (listed in the order of their importance or quantity): gouts, spinner piece-ups, mechanical failures, small pieces of bobbins broken at bottom of traverse, and loose tails that have not been pinched off at the bottom of the full bobbin.

It is the general opinion that most of the gouts stopped by the snick plate originate in the spinning room. These are:

1. Gouts caused by clearer waste.
2. Gouts resulting from lap-stick or scavenger-roll waste.
3. Gouts resulting from some form of cleaning in the spinning room.

Gouts originate when lint or fibers are only partially spun into the body of the yarn. Each gout has a possibility of two yarn defects at the loom. The wider the setting of the snick plate, the greater this possibility.

Assume that a soft gout resulting from spun-in clearer waste hits the snick plate. The teeth will make a grab at the gout but will catch only a part of it. The part of the gout passing through the snick plate accounts for the first defect going to the loom. The part of the gout removed by the teeth of the snick-plate blade is held momentarily in the snick plate or until a nep or thick place in the yarn comes up. When this occurs, one of two things happens. Either the end is broken down, or the gout is sucked through the snick plate and onto the cheese. These are the lint buttons that mill men believe are manufactured gouts, and they are the second defects to go to the loom.

Only in rare instances will a snick plate manufacture a gout. A manufactured gout is one consisting of fibers picked from the body of the running yarn over a long length. There are no manufactured gouts so long as the running end is traversing in the snick plate.

SETTINGS. As an example, the spooling of 30s warp yarn through breaker-type snick plates can be cited. Barber-Colman's chart of settings recommends a 0.021 in. setting for carded 30s. There are a number of mills on this count of yarn, and their settings will range from 0.021 in. to 0.030 in. As a general rule, actual snick-plate settings will average from 0.005 to 0.008 in. wider than the chart recommendations.

On very coarse counts, manufactured gouts may occur from a close setting; on the finer counts, they will not occur from this cause. Few snick plates will be set close enough to skin the yarn. Before that point is reached, tailings would sky-rocket to the extent that very little yarn would be spooled.

Some pass into the warps not because of too wide a snick-plate setting but because of the physical condition of the snick plate. Most experience has been with the breaker-type snick plate, and remarks will be confined to that kind.

In order to secure maximum efficiency, the snick plates should be checked periodically. There are three operating parts which, if stuck, make the snick plate inoperative so far as cleaning the yarn is concerned. These are: (1) the slide, (2) the shaft, and

Condensed from paper before Southern Textile Association meeting at Clemson, S. C.

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(3) the blade. A stuck slide can be seen easily, but a closer inspection is required to detect trouble with the other two elements. Stuck slides and shafts result in the snick plate being wide open.

FLIPPER BLADE. The flipper blade operates on two pivot points and may be stuck in either an up or a down position. If stuck in a down position, the snick plate is completely closed; and, while the running end may enter, it will run but a few yards before breaking down. Snick plates in this condition can be detected by finding cheeses on the spooler that may show a great many knots. An alert spooler girl will always find and point out such cheeses.

In making an inspection of snick plates, we have found as many as 15% inoperative because of the conditions outlined. With this number out of commission, there is the possibility of passing a great many gouts into warps over a relatively short period of time.

Snick plates have stuck slides, shafts, or blades largely because of excessive moisture from the compressed air used to blow off the spooler or from an excess amount of humidity. Incidentally, excessive humidity results in more drum laps, and in suction and skewer failures.

The best way to determine the efficiency of the snick plate is to take a tailing report and examine the defects removed. We have found that the number of spinners' piece-ups removed is a fairly accurate gage of the snick plate's operation.

We recently made such a snick-plate test for a mill that spun 13s yarn long draft from single roving. The purpose of the test was twofold: first, to see if gouts made from setting in roving could be stopped and, second, to determine what percentage of spinners' piece-ups were being taken out.

A number of bobbins were loaded with a predetermined number of spinner piece-ups and roving gouts. The snick plates in this mill were set to 0.005 in. over the setting shown on the Barber-Colman chart; and at this opening we stopped 52% of the known number of piece-ups but none of the roving gouts. We then closed the snick plates to the setting recommended by the chart; and at this opening we stopped 94% of the known number of piece-ups but failed to get a single one of the known number of roving gouts.

If production can withstand it, we favor a snick-plate setting close enough to remove the majority of spinner's

WELL-TRAINED OPERATORS will notice cheeses with excessive knots, such as are caused by stuck snick plates.

piece-ups. Because of the way most ends are stuck up, it is questionable if they will stay together long enough to be woven into cloth. If the spooler has sufficient capacity, it is better to have the piece-up taken out at that point, rather than have it break on the warper, slasher, or loom.

FAILURES AVERAGE 1%. Total bobbin failures come from four causes: the knotter, suction or skewer failure, and poor operators. The tie-up is considered satisfactory if the total failures do not exceed 3%. We visit a few mills in which the total failures will average but a little over 1%, but these are exceptions rather than the general rule. In these mills, the yarn is good; and the section men and the spooler girls are well trained.

Tailings broken at the bottom of the stroke usually occur on yarn numbers ranging from 30s and finer and result from a number of sources. In spooling yarn over-end at high speed, there is a variation in tension from the top to the bottom of the stroke. Tension on the running end also increases as the diameter of the yarn mass decreases. The longer the stroke and the smaller the diameter of the spinning bobbin, the greater the possibility of end breakage of this type. All other things being equal, more end breakage of this nature will occur from warp-wind than from combination-wind bobbins.

We have found, however, that when any appreciable number of bobbins break at the bottom of the stroke, the bobbin is spun "too soft." The tension on the running end is determined to a certain extent by the density of the yarn mass on the bobbin. If the spinning will not stand a slightly heavier traveler, it may be necessary to reduce spooling speed to get away from this type of end breakage. There is no question that a soft-spun bobbin develops more tension in spooling than a firmly built one.

REMOVE LOOSE TAILS. Tailings resulting from the failure to pinch off loose tails at the bottom of the bobbin will vary according to the individual operator. Failure to pinch off these tails preparatory to placing the bobbin in the pocket not only results in unnecessary end breakage but is a source of wild-yarn buttons as well. While pinching off tails requires more time, it should be considered a must in spooling.

There is a draft of air in the bottom of the bobbin pocket that tends to lift and throw a loose tail into the path of the winding end. If the loose tail is stronger, the running end is broken; and a bobbin is lost. If the running end is stronger, the tail is broken off and carried to the snick plate, held momentarily, and then passed to the cheese, later to show up at the warper, slasher, or loom as a wild-yarn button.

In taking tailing reports, a separate check is made on the number of bobbins discharged at the end of the spooler in which the tail has not been pinched off. This may run as high as 40%. The greatest offenders in this respect are spooler girls paid by the piece.

Sloughs will occur on both warp and combination winds. Some are stopped at the snick plate, while others are passed through onto the cheese regardless of the snick-plate setting. The yarn on combination-wind bobbins which have sloughed can be more easily salvaged than that on warp-wind. On the other hand, more sloughing occurs with combination than with warp.

The principal causes of warp-wind sloughs are as follows:

1. Too short a top taper.

2. Ring-rail dwell from any source that will bunch the yarn at the top of the stroke.

3. Too light a traveler, resulting in a soft-spun bobbin.

4. Too long a stroke for the length of the bobbin.

On new spinning, a stroke 1¼ in. less than the over-all length of the bobbin is recommended. On old spinning, where there is wear on both bobbins and spindle acorns, it is prob-

(*Continued on page 208*)

Cuts down static electricity

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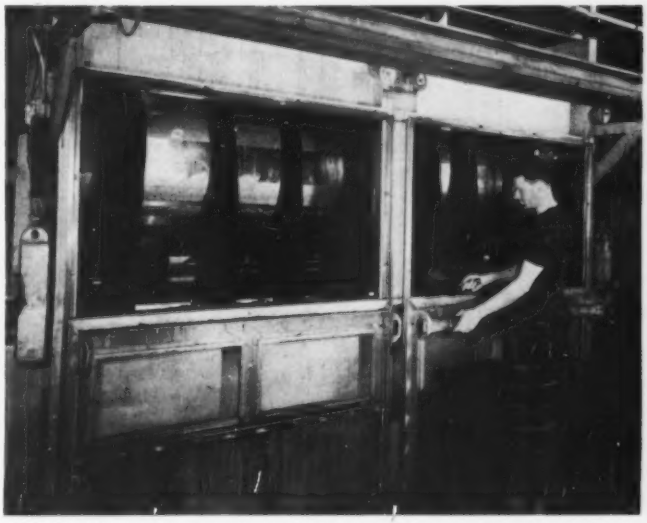
WOOL DYEING Faults Can Be Prevented or Cured

HIGHLIGHTS: *Cloudiness from soap residue sometimes overcome by acid treatment — Carbonizing burns appear as weathering, no sure cure — Prevention of troubles often is easy.*

By K. E. MARSDEN



STREAKINESS IN DYEING, sometimes caused by running too long in one fold, can usually be corrected by boiling the wool fabric in a bath containing acid, glauber salt, and a leveling agent.

"MISTAKES CAN HAPPEN in the best-regulated families" is an old adage worthy of application to woolen and worsted piece dyeing. The reason for their occurrence is often traceable to previous process work; but no matter what the cause, the dyer is usually called upon to provide the cure. Even though prevention is better than cure, the dyer is often not in a position to prevent trouble when others control previous processes. But he must find the cure.

One particular example is that of cloudy pieces, in which the dye is found in patches on the cloth fibers. This is not normally a dyer's fault, but he has to make the pieces level in color.

Soap-fulled cloth improperly washed-off after fulling proves a source of continual worry to every dyer. Such pieces, insufficiently cleansed of soap, never dye level and always tend to show cloudy places of color. The cloudiness, of course, is caused by the acid used in dyeing, which precipitates free fatty acid from the soap residues in the cloth. The free fatty acid then creates a resist on the fiber.

For eliminating such faults, greater care should be taken during washing-off, and the addition of a sulphated fatty-alcohol detergent, or a sulphonated-oil and organic-solvent-type cleansing agent during this process may help to produce cleaner pieces.

In many instances, however, the dyer does not have control over washing-off after fulling. Even so, he can take precautions; and when bad washing-off is suspected, it pays to test a sample of the cloth. Testing can be done by boiling with distilled water in a test tube, followed by an addition of universal indicator, in order to obtain a pH reading. When a reading of above 7 to 8 is obtained, it usually pays the dyer to run the pieces on his own washer and give them a good washing with running warm water until a lower pH is obtained.

So much for prevention, which is better than cure. Occasionally, however faulty washing is not detected in advance and cloudy dyeing is found. The damage having been done, the cure must be found.

It is sometimes possible to redye the pieces, using acid (sulphuric, formic, acetic, or phosphoric, according to the original dyes used), glauber salt, plus an addition of a sulphated fatty alcohol (1 to 2% on total weight of cloth). The boil is reached and boiling continued for at least 1½ hr.

But this cure never is certain; and to insure good results, the use of 5% soda ash, and a 1% sulphonated-oil and organic-solvent cleanser is recommended. The material can be treated in the dye vessel, the boil being reached as quickly as possible, followed by 15 min. of boil time. Next, the pieces should be well-washed, followed by redyeing to shade in the normal manner. The same treatment can prove useful in the instance of grease-stained pieces, such as result from droppings of shafting oil, etc.

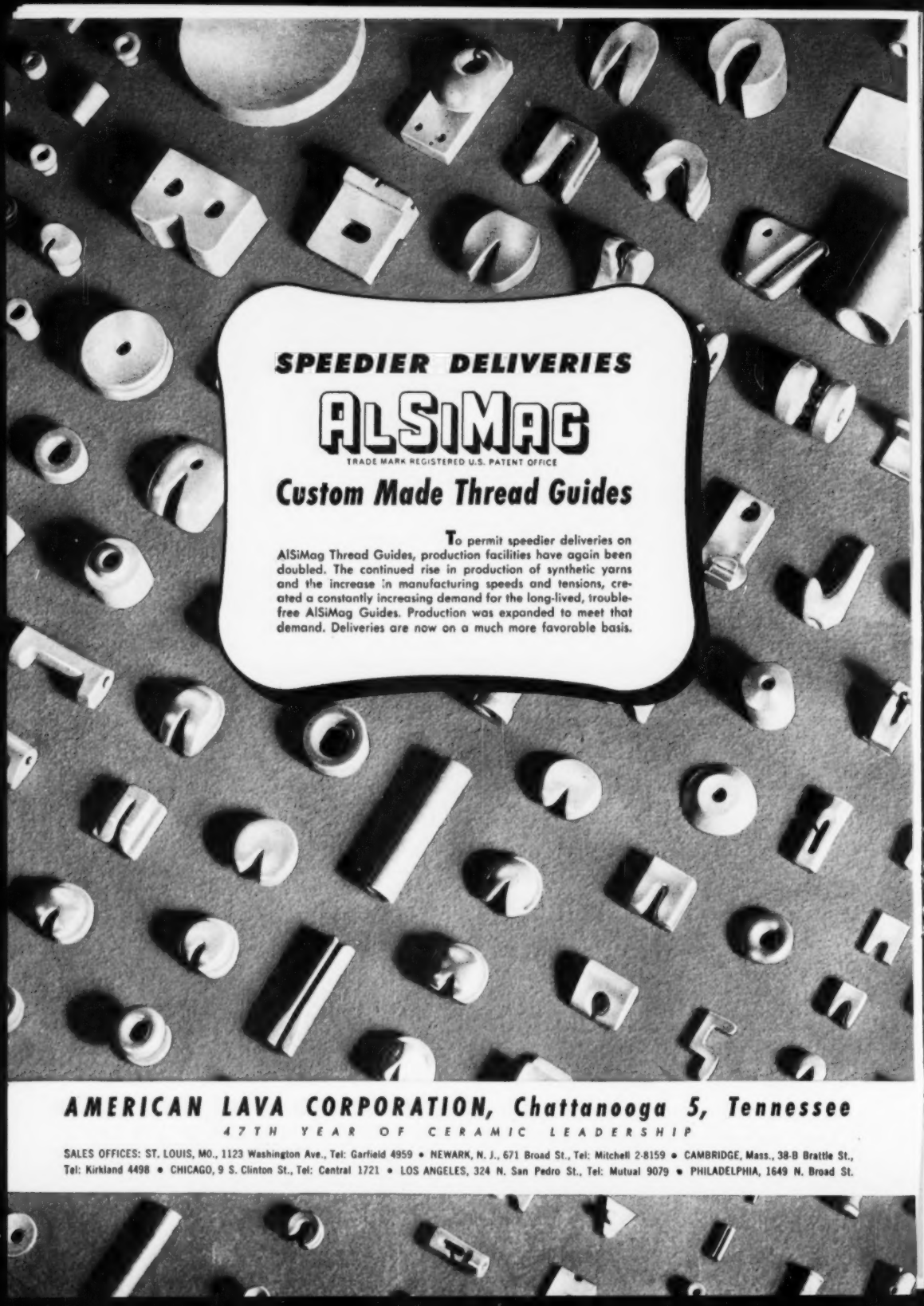
CURLING CLOTH. Listing, that is, pieces lighter in color at the lists than in the center of the piece, or vice versa, is another fault occurring in dyeing which is not attributable to the dyer. He is, however, always called upon to provide the cure.

Tightly woven lists tend to curl over during the dyeing process, either over the back or the face of the cloth. This curling makes for bad penetration, resulting in lightness of color inside the lists, compared to the center of the piece.

All cloths possessing this tendency to curl should be bagged or tacked prior to dyeing; that is, the piece is sewn list to list, using worsted yarn or strong sewing cotton. This can be done by hand, or by use of a piece-end sewing machine. It often pays to leave regular gaps in the stitching in order to prevent ballooning. If gaps are not left, the bagging may break out, damaging the lists.

It is often the case, especially in the dyeing of new cloths, that a tendency to roll cannot be detected until the dyeing operation is under way. Then the damage is done, and a cure is needed. Overcoming the

(*Continued on page 200*)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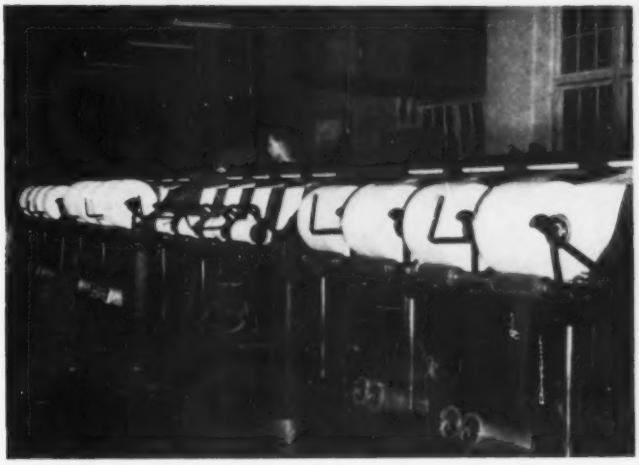
STA Members Discuss COTTON-YARN Problems



CONTROLLED-DRAFT DRAWING using synthetic-covered and metallic rolls were credited, in part, for increased yarn breaking strength.

HIGHLIGHTS: *A 24-bale mix of 1- and 15/16-in. cotton reported by Edenton Cotton Mills for over-all 31/32-in. blend—Varied opening and picking practices described by Erwin, Patterson, Durham Hosiery, and Eno Mills—Carding, drawing, and spinning techniques emphasized.*

YARN-MANUFACTURING PROBLEMS were stressed at the meeting of the Eastern Carolina Division of the Southern Textile Association in Durham, N. C. Some of the topics discussed were types of blending; opening and picking machinery; continuous card stripping; controlled-drafting and Medley drawing; and Pneumafil cleaning for spinning.

It was reported that 12 bales of 1-in. cotton were blended with 12 bales of 15/16-in. cotton to obtain an over-all 31/32-in. stock at Edenton Cotton Mills, Edenton, N. C. The mix was fed through bale breakers and a downstroke horizontal cleaner. Only slight curling was said to result from this method. Five hoppers delivered the stock to an apron for distribution to the opener lines. Cotton was bought from varied localities and mixed by ten-carload lots. In response to a question, W. T. Byrd, Erwin Cotton Mills, Durham, N. C., stated that the downstroke cleaner should be fed somewhat lighter and faster than the upstroke cleaner in order to avoid the possibility of a jam.

A mix of 30 bales was reported by Erwin Cotton Mills, and 14 opening hoppers were used. The order of machine processing was: bale breaker, vertical cleaner, two No. 12 cleaners, a No. 2 overflow system, regular distributor, and picker. The system was said to open and clean the 30-bale mix of 1-in. middling cotton satisfactorily.

A new opener room at Patterson Mills, Roanoke Rapids, N. C., had five opening hoppers, followed by a conveyor belt, gyrator, condenser, vertical opener, second condenser, lattice opener, condenser, lattice opener, and picker. While only a month old, the new layout was said to increase cleaning facilities.

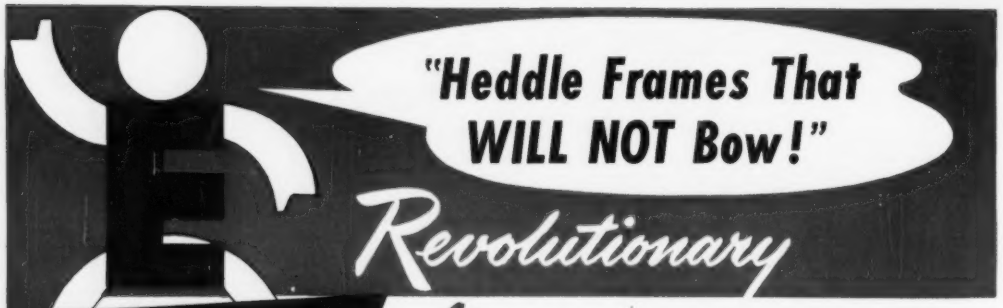
HOSIERY YARN. The system at Durham Hosiery Mills, Durham, N. C., used five feeder hoppers and one waste hopper going to a conveyor belt, a No. 12 opener, a new Superior No. 12 cleaner, 2 vertical openers, a No. 12 cleaner, an upright apron, and picker. The new Superior cleaner did not replace any machines and was installed to give supplementary cleaning. Horizontal-cleaner beater speed was 600 rpm. The first vertical beater speed was 800, the second was 600 rpm. An interesting test in which these speeds were reversed was reported as inconclusive at this time. However, a second test of by-passing the second vertical cleaner was completed and showed a considerable reduction in neps in the stock. This second vertical was replaced in the line, however, because of the need for cleaning and because supplementary card overhauling had made further improvement in neps possible. With the second vertical in the line, production per hour was 965 lb. Erwin Cotton Mills No. 2, Durham, N. C., reported a different arrangement of opening machinery: a No. 12 horizontal cleaner preceded a vertical opener which, in turn, was followed by a second No. 12 horizontal cleaner.

Erwin Cotton Mills No. 1, Durham, N. C., reported three-beater, one-process pickers. Two three-blade beaters and one Kirschner beater were used. In response to the question whether or not blade beaters broke fibers to any considerable degree during processing, the blade beater when too sharp or set too close was reported to cause fiber breakage. It was recommended in general that the sharper the blade, the farther it should be set from the rolls; and the duller the blade, the closer it should be set. Periodic grinding of blades was also recommended by Erwin Mills.

Patterson Mills installed new pickers simultaneously with the new opening line. Because of the extra cleaning from the new opening machinery, the discussion on picking methods brought out the fact that two beaters rather than three in the picker line were sufficient. The mill uses one blade beater and one Kirschner. Lap-weight tolerance was ±4 oz. Blows per inch on the blade beater were 23.91; on the Kirschner beater, 50.51, at speeds of 1,000 and 1,200 rpm., respectively. Eno Cotton Mills, Hillsboro, N. C., described a system similar to the Erwin picker layout, but the total blows per inch for two blade beaters and one Kirschner were 72. Lap-weight tolerance was ±4 oz.

Maximum speeds of Kirschner beat-

(*Continued on page 206*)



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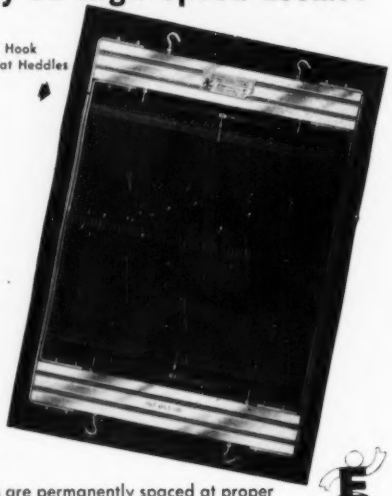

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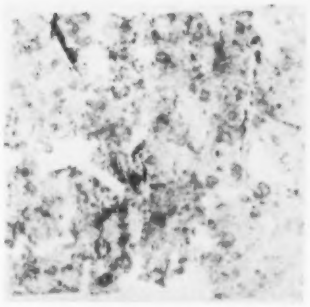
SRRL Developments IMPROVE COTTON

HIGHLIGHTS: *Amino groups added to cotton cellulose give wool-dyeing properties — Treatment improves water absorption — Drafting changes can improve yarn uniformity — Incandescent-gas slasher being developed.*



ROT DISINTEGRATION *of cotton fabrics as shown above can be slowed or avoided by treatments developed at Southern Regional Research Laboratory of U. S. D. A.*

VARIOUS CHEMICAL MODIFICATIONS of cotton being worked on at the Southern Regional Research Laboratory of the U. S. Department of Agriculture in New Orleans were highlighted by Dr. Walter M. Scott, director of the laboratory, during the recent annual meeting of the Textile Research Institute.

Following are paragraphs extracted from Dr. Scott's talk.

✦In research on protective finishes for cotton ducks, the following types of treatment have been tested: clear resins alone, mineral pigments alone, and combinations of resins and pigments. Plain urea formaldehyde resin gave definite protection to undyed or solid-dyed fabric, and a combined resin-pigment treatment (urea formaldehyde-lead chromate) gave even greater protection. With this resin-pigment combination, less than 5% of strength was lost after a year's exposure, against a 50% lost by untreated fabric. In the treatment of colored or striped awning ducks, the treatment should not introduce an interfering color, and so only clear, light-absorbing resins have been tried. Effectiveness of urea-formaldehyde resin in this type of treatment was indicated and studies are continuing.

✦The introduction of amino groups into the cellulose molecule has produced a type of cotton which has an affinity for acid wool dyes, in contrast to ordinary cotton. Moreover, metallic elements added to an aminized cotton give rot resistance; addition of organic groups gives water repellency; and there are other possibilities for further modification. Cotton may be aminized in the form of fiber, yarn, or fabric by allowing 2-aminoethylsulphuric acid to react with the cellulose in a strongly alkaline solution, followed by heating and washing. Breaking strength is not appreciably affected. The use of aminized cotton as an anion exchanger is being investigated.

✦Cotton fabric that absorbs water at a much faster rate than ordinary cotton has been obtained by an optimum procedure worked out for the formation of carboxymethyl cellulose. Carboxymethyl groups are introduced by treating yarn or cloth with alkali and small amounts of chloracetic acid. The reaction takes place without loss of fibrous properties and very little loss of strength. The treatment increases total water absorbency and definitely speeds up the rate at which the water is absorbed. This property should be of value in such fields as that for towels.

✦Methanolysis of cotton cellulose in the presence of anhydrous acid produces a new type of short-chain cellulose molecule which is resistant to further action of strong alkalies.

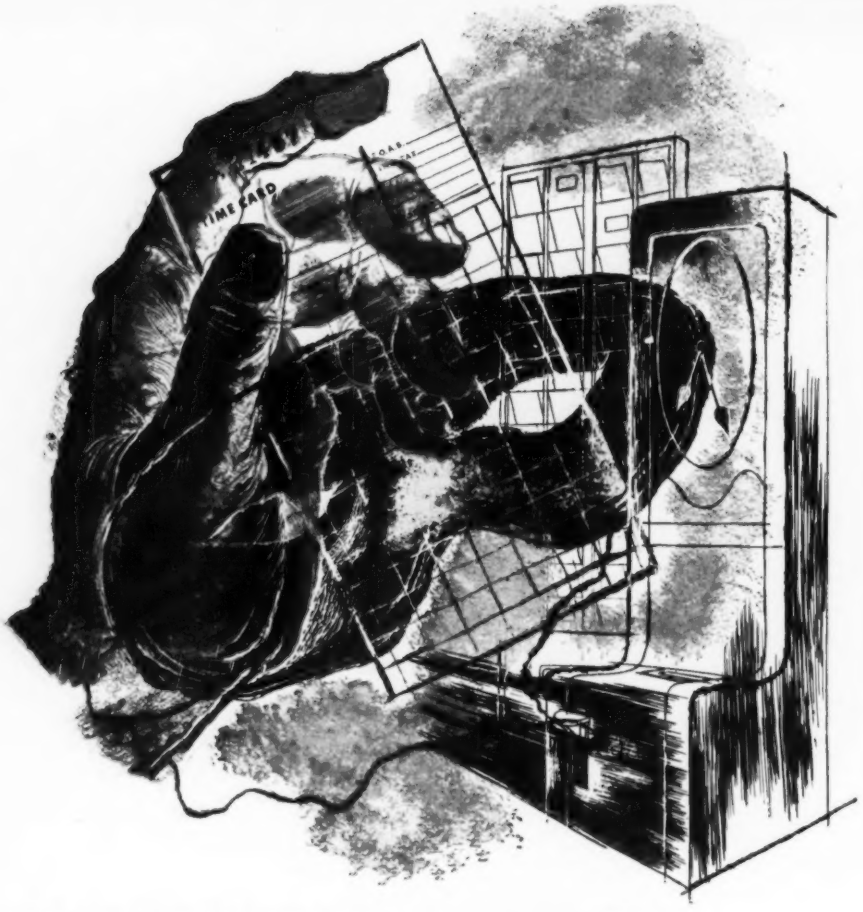
✦The phosphorylation of cotton cellulose, originally accomplished as part of a wartime project which successfully produced flameproof cotton, has been carried out by a treatment combining the application of heat with treatment by urea and phosphoric acid. Cellulose phosphate has also been prepared by using phosphorous oxychloride in the presence of pyridine. It has been demonstrated that phosphorylated cotton is a good cation exchanger.

✦A series of drafting studies have been conducted on several varieties of cotton of different staple lengths with a high-draft, or dual-zone, type of frame. The results showed that substantial improvements in uniformity can be secured with long, fine-fibered cottons as well as with short, coarse varieties by a better proportionment of drafts between the two zones. The immediately significant development of this work is a new draft guide to replace the conventionally used guide with this high-draft system, which use substantially improves the uniformity of the roving, reducing the strength variation in the subsequent singles yarn by about 50%. In another series of drafting studies, it has been found that, while increases in draft on the drawing and roving frames do not affect materially the strength or grade of a coarse yarn, increases during spinning result in significantly lower skein strength, although they have little or no effect on the grade of the yarn.

✦The growing substitution of machine picking for hand picking of cotton has made imperative the development of more efficient equipment for cleaning ginned cotton in the textile mill. As a step toward this, the SRRL is attempting to establish some fundamental principles of cleaning. It has started with studies on the characteristic adherence of cotton fibers to trash and the electrostatic potential of the many types of trash particles—fuzz, twigs, sand, dirt, bits of stalk, and especially the leaf material which is particularly hard to remove. In the course of work on this problem, an improved cotton-opening machine has been developed which fluffs up matted lumps of cotton into small, soft tufts to prepare them for subsequent cleaning. So far, the indications are that the increased fluffiness is achieved without damage to the fibers. The design is flexible enough for use in getting information of research interest on each lot of cotton. Actually, trash removal is only incidental to the real function of the machine—the more efficient opening up of the matted cotton.

✦Another development in the laboratory's mechanical processing investigations is a radical type of cotton slasher for use in experimental slashing. The new machine dries the yarns by incandescent gas burners in an infrared, hot-air oven, in contrast to the steam-heated drums used in conventional slashing. Another contrast is that the slasher provides control of rate of heating, and offers better control of mechanical variables. The equipment gives promise of aiding in research on the factors which influence the final quality of slashed products. It is being evaluated in the laboratory and its full capabilities have not yet been determined.

Dr. Scott also told of development of cotton tire-cord yarns due to inroads being made by rayon and of the partial acetylation process developed to make cotton rot resistant [T. W., Feb., 1946, p. 115]. He also referred to the SRRL dyeing technique to distinguish between immature and mature cotton fibers [T. W., July, 1947, p. 115—reprints available].



Is this PROFIT THIEF on your payroll?

He's a slick operator. He's at work on machines in plants all over the country retarding production, eating away at profits, costing industry enormous amounts that *can* be saved!

Not in *your* plant, you say? Why not have a look? Today!

Are you still scooping grease from drums to guns with antiquated paddles? There's your profit thief at work—wasting time, wasting grease, risking dirt and contamination.

You can save 3¼ man hours for every 100 lbs. of grease.

Are you lubricating machines by hand—the old, time-wasting, risky, hit-or-miss method?

You can save up to 23.9 man hours in *applying* each 100 lbs. of grease.

Are you paying the price of "down-time" and lost precision for lack of the right grease at the right time?

You can make lubrication foolproof—make sure every bearing gets the right grease in measured amounts every time—even lubricate hundreds of bearings from one central point—while machines continue to produce.

How about it? Is this profit thief loose in *your* plant—on *your* payroll?

His label is "faulty, old-time, costly lubrication methods." Methods that are adding staggering sums to the already high cost of production.

There's one proven way to stop this loss.

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from barrel-to-bearing will increase your production and profits.

Telephone your local Alemite distributor—or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

ALEMITE

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

Another Product of STEWART WARNER

"Give us the tools . . ."

What Are *YOUR* Chances If There Are No Profits?

Since the November 2 election there has been a dazzling variety of plans to have the government do more and more things and spend more and more money. But there is almost no variety in the plans which are suggested to raise the money.

"Pay for it by taxing profits," is the standard refrain. Slap on an "excess" profits tax. Boost the corporations' income tax rate.

Well – why not? Haven't the corporations been making so much money that a big chunk of it can be turned over to the government spenders without hurting anybody?

The answer is no!

How high profits should be can be debated endlessly. Some people claim that 1948 corporation profits, which will amount to about $20 billion, are too high. They emphasize the fact that profits are larger in relation to investment than they were a few years ago. Other people think profits are low. They stress the fact that profits are not much larger in relation to sales than they have been historically. Both sides agree that in some individual cases profits have been too high, as in others they have been too low or non-existent.

But if we cut the total volume of profits drastically, we shall do so at our national peril.

There is no room for debate about that. For we shall choke off the crucially important job of building new plants and equipment for our industries. Squeeze hard enough, and America will go the way of Britain – down the long and painful skids of industrial decline. Widespread unemployment, especially among our industrial workers who produce new plants and equipment, will mark the dreary way. Here is a fact which the President, the Congress, the C.I.O., and all of us have a real reason to remember:

Almost two-thirds of all profits today are going to rebuild and improve plants and equipment.

More than $13 billion of this year's profits are being plowed back. They are going – as a large proportion of profits have always gone – to buy for workers better tools to work with, better surroundings in which to work. They are making possible better products, and more of them, for all of us.

The figures below show how companies have put more and more profit-dollars and a larger share of their profits to work in the business:

YEAR	PROFITS REINVESTED	% OF TOTAL PROFITS
1929	$2.6 billion	31%
1939	1.2 "	24%
1943	5.9 "	57%
1944	5.2 "	53%
1945	4.2 "	47%
1946	6.9 "	55%
1947	11.2 "	62%
1948 est.	13.0 "	65%

continued on next page

The record shows that each of us is the real beneficiary of this plowing back of profits.

Every American has benefited from these profits. Each dollar that business has put into its plants and equipment in the last thirty years has increased our yearly production by 35 cents.

This re-investment of profits has helped make possible a 75% increase in living standards since 1919.

It has helped increase wages from an average 48 cents an hour in 1919 to $1.36 today. Allowing for higher prices, that increase means that an hour's work today will buy twice as much as it did thirty years ago.

Why must business retain these billions of profits to improve its plants and equipment? Why must it plow back more and more? *The reason is that business already is caught in a tax squeeze.*

Federal taxes alone take at least thirty-eight of each one hundred dollars a company earns. Then, if the company pays out to its stockholders any part of what is left as dividends, the federal personal income taxes of the stockholders may take up to 77% of those dividends. Under these conditions, so few people are willing to invest in industry that the stock market is stagnant. Companies can not raise in that market the money they need for improvements.

The result: business must rely more and more on plowed-back profits to pay for new plants and equipment.

We know that everywhere in industry new and better ways of producing goods are standing ready for use. The previous editorial in this series mentioned some of them. We know, too, that depression and war put our industries far behind schedule – as much as $100 billion behind – in getting the new tools they should have had to keep themselves in first-class shape. McGraw-Hill is now completing a survey of industry that will measure these needs. The results will be published in this editorial series. We know already that in 1949 alone industry will need $18 billion or more for this purpose.

And all but a small fraction of that sum must come from profits.

Our prosperity, our strength as a nation, our hopes for better living depend on our continuing to generate and to plow back a large volume of profits.

For that reason we should not thoughtlessly follow these people who propose to pay for any and all new government activities by saying simply, "Soak the corporations." There is no need to follow them. There are other ways of obtaining necessary funds.

First and foremost should be economy within the government itself. If its citizens must pay still higher taxes, then surely government should exercise rigid self-restraint, cutting out all but the most essential activities and expenses.

After economy should come consideration of a broader federal tax base.

If these and other methods of raising money are inadequate and if taxes must take a bigger bite from business profits, two facts are clear. We should not adopt an "excess" profits tax with all of its complications and all of its corrupting effect on business. A moderate increase in the regular income tax on corporations is much less dangerous. *But even such an increase, if necessary, should be accompanied by special allowances for expansion and depreciation that will encourage companies to continue spending their earnings for new plant and equipment.* We all have a stake in that.

At this critical juncture in our history profits have a new and vastly more important role than they have ever had. In unprecedented degree they are the drive behind our present prosperity and the key to a better, stronger future.

Give profits the axe and the blow does not stop there.

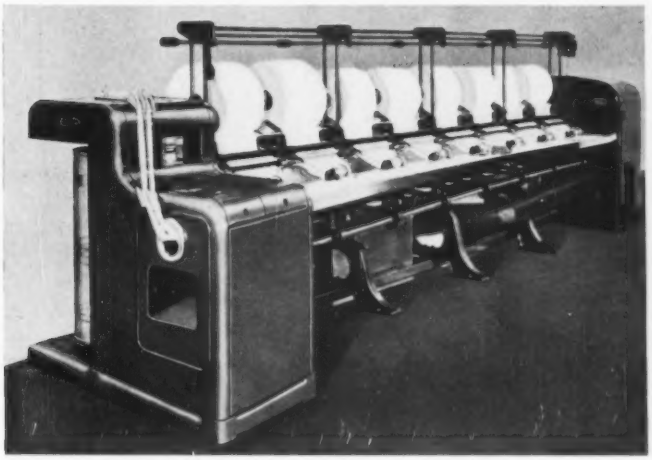
It cuts into the employment, the prosperity and the strength of our nation.

Everyone of us has a stake in how the President and Congress handle taxes on profits – and now is the time to remind them of that stake.

President, McGraw-Hill Publishing Company, Inc.

TEXTILE Equipment NEWS

New Comber Features High Speed and Unit Assemblies



FULLY INCLOSED HEAD AND FOOT are striking features of the redesigned comber

High-quality sliver at a high production rate is the objective said to have been attained in the design of the new Model J comber developed by Whitin Machine Works, Whitinsville, Mass.

Among the improvements made are better detaching-roll motion, redesigned nipper frame and top comb, spring weighting, increased production, additional streamlining, and a reduction in horsepower required per pound of sliver produced. These features are reported to have been tested and proven in mill service and to have given highly satisfactory results.

Component parts are machined and bored to extremely close tolerances, a design feature said to result in machine-tool precision and smooth-running operation, lack of vibration, reduction in noise, and a marked decrease in wear. When parts do have to be replaced, they may be replaced with little or no machine-down time and consequent loss of production, the company states.

The head and foot ends of the machine have been redesigned and are completely inclosed in smooth, streamlined compartments which do not interfere with accessibility. The motor and fan for the aspirator have been installed inside the head end where they are free from dust and lint accumulation. Corners have been rounded off, surfaces smoothed, and projections eliminated to make cleaning easier. Wide, swinging doors are designed to bring every assembly within easy reach.

The coiler is now an integral part of the comber instead of being an attached unit. The new design is said to promote better functioning of the coiler and to keep the sliver under control until it is deposited in the coiler can. The complete inclosure has advantages of lint, dust, and dirt exclusion while the can itself may be easily removed when filled and an empty can inserted.

Located in the head end is the reservoir of the Bijur one-shot lubrication system. The system supplies oil to 82 points in the comber, and it is so controlled that operation of the pump manually twice each shift is sufficient to keep these points properly lubricated.

The inclusion of all moving parts in the head and foot ends contributes to the safety of the operators and reduces the possibility of accidents.

The number of heads have been increased to eight at no sacrifice in net power consumption or efficiency. Over-all lengths and floor displacement have been increased slightly over earlier eight-head Whitin combers.

A 14-in. coiler can carried on a can table that receives a circular but nonrotating motion now takes two slivers instead of the usual single sliver. The two slivers are said to be smoothly coiled, to be free from twist insertion, to retain their own identities, and to be separated easily when fed to the drawing frame. The specially designed can table and coiler-can motion solves the problem of handling the two slivers and reduces the number of cans needed in the drawing process by 50%.

The draw box has been widened to allow the web to be spread over a greater roll surface, a feature said to result in better holding of the fibers while drafting. The web is split into two parts at the draw box; and, by low drafts at slow speed, better drafting of the fibers is said to be made possible than with the conventional drafting mechanism.

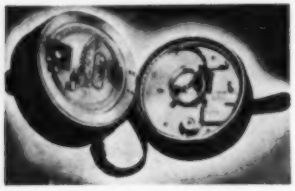
Production capacity has been substantially increased. By means of a new cam and gearing organization for operating the detaching rolls, the speed of the combing cycle has been increased to 150 nips per min. This is an increase of speed of 27% over what has been possible with previous combers. Quality of the product and uniformity of the sliver is said to be much better. The piecing or overlapping of the successive tufts now results in a better distribution of the fibers and a more uniform sliver.

Replacement of main bearings has been made extremely simple by having bushings located in accurately bored holes.

Replacement of parts has been simplified. Many sections can be removed as a whole unit for reconditioning. For example, the whole gearing assembly in the upper head end can be removed in less than a half hour. Service maintenance is improved greatly, since it is no longer necessary to work inside the frame to replace parts. After a period of years, when repairs beyond the

facilities of the mill repair shop are needed, the unit in question can be removed and sent back to the factory for repair service, thus avoiding delay and expense.

Watchclock Records Over 2-Week Period



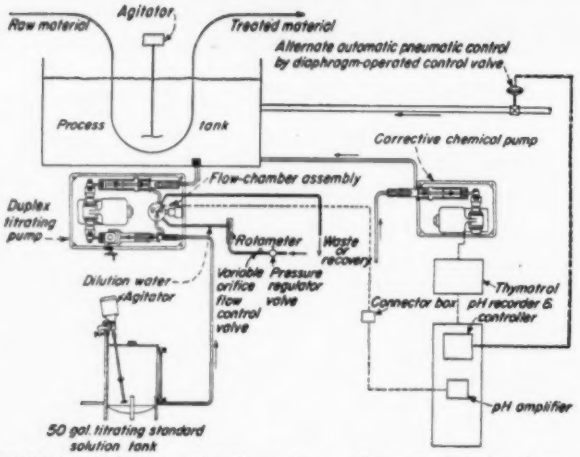
A MOVING TAPE can provide an embossed record of up to 40 watchman's stations for a period of two weeks.

No longer need the overseer or master mechanic visit the plant on week-ends or during vacation days to change the dial in the watchman's clock. A new watchclock, the Guardsman, developed by Detex Watchclock Corp., 76 Varick St., New York, N. Y. records watch stations by embossing a moving tape which has a two-week registry capacity. No ribbons, ink, or carbons are used. Up to 40 stations can be recorded on the tape. The tape recording for each day may be removed, if desired.

The Guardsman contains a highly accurate 8-day movement especially designed for watchclock use with an especial escapement for dependable timekeeping. It requires but one winding a week. It is built to withstand hard use, is inclosed in a durable aluminum die-cast case, and is protected by a riveted reinforced carrying pouch which is equipped with a protective shutter covering the key house. The glass is heat-treated to prevent tarnish and discoloration.

Caustic or Acid Bath Strength Controlled

It is sometimes desirable to control the strength of a caustic bath or of an acid within limits when there is relatively little change in conductivity, pH value, or other variables that would lend themselves to a conventional control system. For example, the change in pH (or other) value between the desired control limits would be on the flat part of the titration curve with a negligible change in pH for a relatively large change in concentration. This pH change would not be detectable or controllable to measure by direct methods.



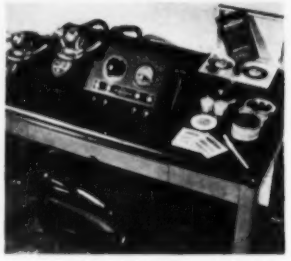
STRENGTH OF CAUSTIC or acid baths may be controlled automatically by this automatic titrating system.

To meet such requirements, Milton Roy Co., Philadelphia, Pa., manufacturer of controlled-volume chemical pumps, has developed an automatic titrating system utilizing a duplex controlled-volume pump to titrate automatically a sample continuously from the liquid bath. A sample of the liquid from the bath is held on one side of the pump, and to that sample in direct ratio and exact proportion is metered a fixed quantity of titrating medium. For example, if control were desired on a caustic bath, phosphoric acid might be used for the titration, with the second side of the duplex pump handling a standard solution of phosphoric acid proportionally to the sample of caustic delivered by the first side of the titration unit.

The mixture of the two reagents would then give a resulting pH value on the steep portion of a curve that would directly indicate the strength of the caustic bath. A pH meter measuring this pH value would automatically set the feed of strong caustic to the caustic bath to maintain the desired standard strength of caustic required in the bath, increasing the feed of caustic to the bath in the event that the titration indicated a falling pH value below the control point, or decreasing the feed of caustic soda in the event that the titration indicated a bath of higher concentration than that required.

The same type of system can be used to maintain the strength of acid baths within certain control points, using one controlled-volume pump as a titration unit and a second controlled-volume pump, or a flow-control valve, automatically regulated by the pH meter and controller, to maintain a feed of strong acid to hold the strength of the bath at the required control point.

Rotary Abrasion Tester Improved



A NEW CONTROL UNIT can control the suction of the vacuum and the length of test; it can also operate two abrasers simultaneously.

A new rub-wear abrasion-testing set, model 100-109, incorporating a rotary abrading action on a 4-in. specimen has been developed by Taber Instrument Corp., 114 Goundry St., North Tonawanda, N. Y. The wear results from alternately rubbing the flat faces of two resilient Calibrase wheels over the surface being tested. A range of standardized abrasive wheels are available for testing all types of surface finishes.

New features include improved suction pump and vertical dust receiver with swinging nozzle fully adjustable

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in Textile Paper Carriers

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For 50 years SONOCO has meant the "last word" in textile paper carriers and for almost that long it has been the "first name" in this industry.

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DEPENDABLE SOURCE OF SUPPLY

for any thickness of specimen. Different materials require a varying degree of suction cleaning while being tested; therefore, the control unit is equipped with a built-in variable transformer for adjusting the speed of the suction turbine motor. The control panel is also equipped with an adjustable timer to provide a test period of 1,000 cycles, or less, and to shut off automatically the power, permitting the operating technician to be otherwise engaged in tabulating results or preparing new specimens without concern of overrunning the test being made.

Switches on the front of the control panel provide any combination of operating conditions, such as with or without vacuum pickup, continuous operation without timer, or any timing up to 15 min.

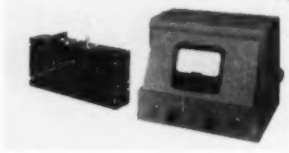
The control unit is equipped for dual operation; that is, an additional abraser unit can be located beside and connected with the control unit, thereby permitting two specimens to be tested simultaneously using the same controls and vacuum unit.

Three testing sets are offered by the manufacturer, each complete with parts and supplies for various types of testing. The price of the basic Model E-4010 abraser (without vacuum pickup) is $350.00, which includes parts and supplies necessary for a limited range of specialized testing not requiring vacuum pickup of abradings.

The same set is furnished with the vacuum pickup at $475.00 and is adapted to a wider range of testing and with greater precision when testing dry materials due to the suction feature which removes abradings.

Delivery is said to be 2 to 3 weeks.

Yarn Diameters Measured by Light



YARN DEVIATIONS are measured by passing yarn through the inspection head, left. Deviations are shown on the dial at right.

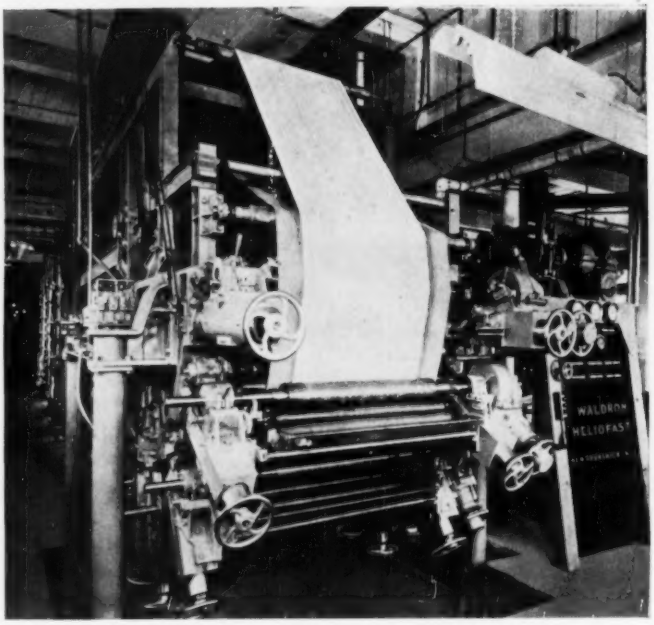
A new Serc "electron micrometer" for measuring, recording, and counting variations in the size of fibers and yarn has been developed by Standard Electronics Research Corp., 2 East End Ave., New York 21, N. Y. The measurement, on a continuous basis, is made without contact, thereby eliminating any error due to distortion of the specimen under examination.

Standard equipment (Model EMA) consists of an inspection head and a power and control unit with a meter, directly calibrated in thousandths of an inch. In addition to the basic unit, the company supplies two other models with provisions for recording and for counting variations. Model EMB has additional equipment consisting of amplifier and high-speed recording device (the brush oscillograph). The counter, Model EMC, with provisions also for the recorder, comprises the regular unit with additional control amplifiers and counting devices which automatically count the number of slugs, neps, as well as the number of thin spots. Special modifications can be supplied on request.

Using 110-v., 60-cycle current, the electron micrometer is said to be simple to use, rugged in design, and adaptable to both laboratory and mill. Material to be inspected is placed in the inspection head, over the guiding rollers; the base size is set on the micrometer head, and variations are noted on the meter (or chart) as the material runs over the rollers. Yarn size may be directly measured by twisting the micrometer until the meter reads zero. The size is then indicated on the micrometer barrel.

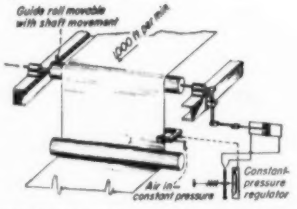
Availability is about four weeks.

Printing Machine Uses No Back Gray or Cylinder



A NEW PRINTING PROCESS, known as Heliofast, which accomplishes high-speed, multicolor textile printing without a back gray and without a cylinder has been developed by John Waldron Corp., P. O. Box 791, New Brunswick, N. J. The printing operation by the new process is said to maintain commercial register at speeds of 230 yd. per min. Much sharper and more clearly defined printed patterns are being produced with the smaller arc of printing contact, the company states.

Cloth Guided By Air Nozzles



PROPER CLOTH POSITION is maintained by the amount of air pressure passing by the fabric edge.

Control of the edge position of fabric entering a process over rollers within limits of ± 0.05-in. by mechanical means and without touching the fabric is claimed for a new edge positioner

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- Transfer Irons
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No mistaking this Miss! Her special cap spells nursing skill and service. And there's no mistaking your products with distinctive Kaumagraph Identification! Economical to use, easy to apply, Kaumagraph marking gives your trademark, name or symbol standout distinction on counter or shelf—builds real customer confidence—pushes quicker sales. There is a Kaumagraph method adaptable to every requirement for textiles of any texture, leather, rubber and synthetic materials.

If you have not seen "Prestomark", the thermo-plastic backed fabric label that may do your product labeling cheaper and better, send for samples today.

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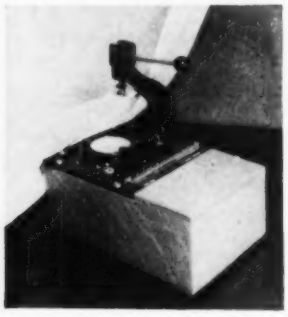
developed by Askania Regulator Co., 240 E. Ontario St., Chicago 11, Ill.

A new combination of the company's standard control components with the addition of a pair of air nozzles does the job. The nozzles are used to pass a narrow stream of air past one edge of the fabric. The air comes from one nozzle and is received by the other, which is connected to the diaphragm of a pressure regulator. Any movement of the sheet between the air nozzles which varies the flow of air to the diaphragm will cause an impulse to be transmitted to the regulator which then supplies power to change the position of the fabric on the roller. When the fabric moves to the right or left, it cuts off more or less of the air flow, changing the impulse on the regulator until a control position is reached.

The position of the air nozzles can be changed with a handwheel in order to change the desired position of the fabric in relation to the center of the roll. When the air nozzles are moved to one side or the other, the sheet will follow them until the proper controlling impulse is received by the diaphragm of the pressure regulator.

Meter Gives Rapid Accurate Moisture Readings



MOISTURE CONTENT of materials can be determined in a few seconds to an accuracy claimed to be within 0.25% to 0.4%.

An instrument designed to give instant and accurate moisture determinations for textile materials is being introduced into the textile industry by Hart Moisture Meters, Grand Central Terminal Bldg., New York 17, N. Y.

Available in battery- or a.c.-line models, the meter gives a direct reading in moisture-content percentage without reference to charts. Sample used need not be weighed and need not exceed two grams in volume. Temperature of the sample is likewise irrelevant as it is immediately adjusted to the temperature of the electrodes. The instrument has no moving parts. A variety of electrodes is available for applying the meters to fabric, raw stock, top, sliver, etc.

Operation of the meter is based on the principle that the electrical resistance of most materials varies enormously with each slight change in moisture content.

The meter is approximately 7x4x11 in. exclusive of contactor, and weighs approximately 10 lb., thus is entirely portable.

The meter can be supplied to cover the entire range from 2% up to 20%. In the dry range from 2% to approximately 14%, the meter is said to give readings with no probable error in excess of 0.25%—from 14% up, no error in excess of 0.3% is claimed.

The meter is calibrated from samples of a mill's material. This service is included in the price of the instruments and is at no additional cost.

Hacoba Winder Again Available

THE HACOBA FILLING WINDER [TW, Feb. '39, p. 77, and July '47, p. 118] is again being distributed in the U. S. by Atkinson, Haserick & Co., Boston, Mass. In operation, the fully automatic winder stops winding, traps and cuts yarn, lowers bobbin into tray, supplies new bobbin, winds the bunch, and winds a new bobbin. Each head of the winder winds four bobbins. Winding speeds claimed are: cotton, 6,000 rpm.; rayon, 5,000 rpm.; wool and worsted, 4,600 rpm.

F. F. Carrier Tension Rings Keep Tensions Stable

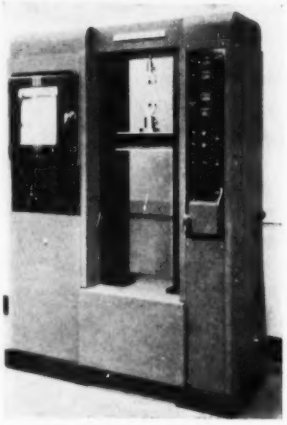
Stable tensions, which have long been a problem on full-fashioned carrier tension rings, are maintained by the new AlSiMag carrier tension rings, according to American Lava Corp., Chattanooga, Tenn.

The new tension rings are said to be hard and homogenous. They are highly polished to reduce the possibility of fluctuation of tension.

Reports on 90-day wear tests indicate that no guide has shown any signs of wear at the end of the 90-day period. The extreme hardness of this material and performance of AlSiMag guides in similar applications lead to the conclusion that it may require several years to determine the service life of the AlSiMag rings, the company states.

Samples of AlSiMag carrier tension rings will be sent without charge on request to the manufacturer.

Versatile Tensile Tester Has High Precision



A WIDE RANGE of jaw speeds, load ranges, and chart speeds permit virtually any type of load-elongation testing.

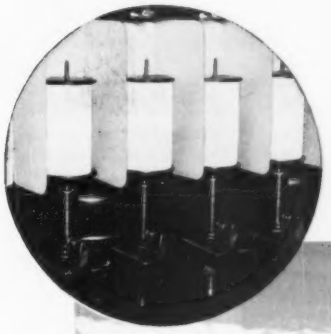
A new, high-precision, versatile, tensile-testing instrument suited to textile or plastic materials is being produced by Instron Engineering Corp., 2 Hancock St., Quincy 71, Mass. Load range is 2 grams to 1,000 lb.

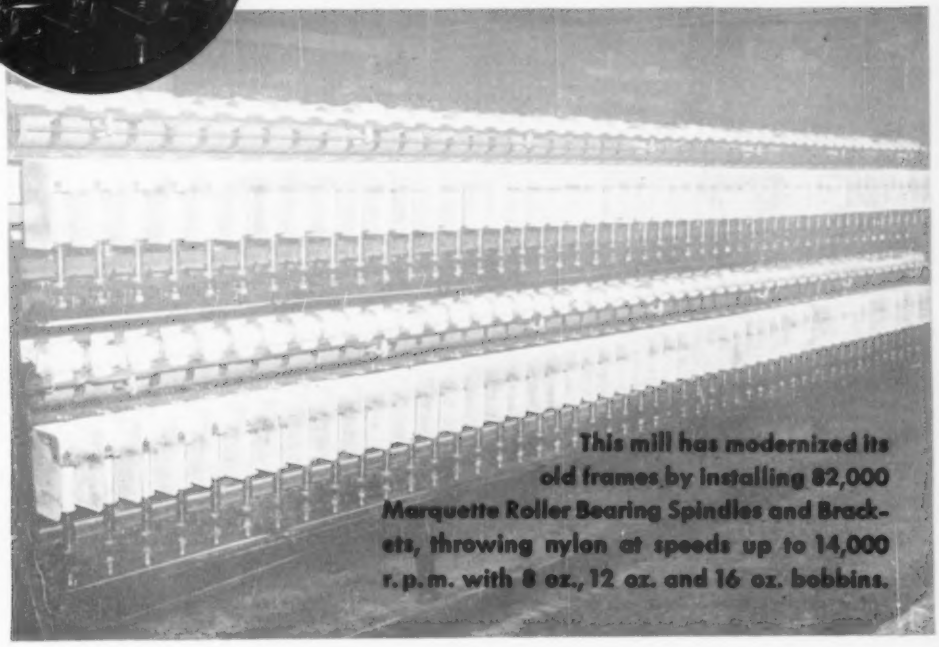
By virtue of the versatility of the controls, both for changing the sensitivity of the load-recording system and for varying the motion of the pulling jaw, a wide variety of testing techniques is available for measurement of special properties.

The instrument utilizes an electronic weighing system for detecting and recording the load applied to the sample under test. The pulling-jaw drive provides a controlled rate of elongation of the sample, over a wide range of speeds, in either direction of travel, and with instant reversibility. The chart of the high-speed recorder is

Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted





This mill has modernized its old frames by installing 82,000 Marquette Roller Bearing Spindles and Brackets, throwing nylon at speeds up to 14,000 r.p.m. with 8 oz., 12 oz. and 16 oz. bobbins.

Marquette Roller Bearing Spindles can be obtained by all frame builders. Specify Marquette Spindles when you order new frames.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette METAL PRODUCTS CO.

CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSES
FUEL OIL INJECTORS • PRECISION PARTS AND ASSEMBLIES

BYRD MILLER, WOODSIDE BLDG., GREENVILLE, S. C. • C. H. WHITE, 1229 PAMLICO DRIVE, GREENSBORO, N. C.
WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA. • JOHN J. HALLISSY, 58 LIVINGSTON AVE., LOWELL, MASS.
IAN M. HALDANE & COMPANY, P. O. BOX 54, LONDON, ONT.

driven at various speed ratios with respect to the pulling jaw, so that tensile load-elongation curves of the material are made accurately at constant rate of elongation.

The pulling jaw of the instrument is mounted on a movable crosshead which is operated vertically by means of twin screws of a special design to eliminate backlash.

Instantaneous starting, stopping, and reversal of direction of travel of this jaw is effected through fast-acting computer-type magnetic switches. As almost no lag or error is introduced at reversal, this system enables measurements to be made of hysteresis under cyclic conditions with accurate correspondence between head position and chart travel being maintained at all times.

Operation of the pulling head is controlled by push buttons located on the right side of the unit which start, stop, or quickly reverse the motion of the movable jaw. The operation can be made automatic.

Standard jaw speeds extend from 0.02 to 20 in. per min. in 12 steps.

The heart of the load-recording system consists of a set of sensitive load cells based on the electric strain-gage principle. Load variations produce electrical signals which are amplified and made to operate a high-speed graphic recorder. Like the pulling jaw, the chart is synchronously driven at various speeds, so that the resulting trace is an accurately drawn load-elongation curve of the material, at a constant rate of elongation. The standard chart speeds which are provided cover the range from 0.2 to 50 in. per min. in ten steps.

Electric-and-Glass-Fiber Unit Heats to 700° F.

BOOSTER HEAT up to 700° F. for drying operations can be provided by this new heating unit.

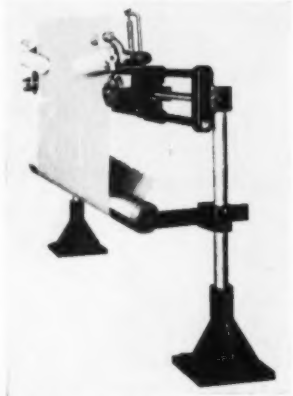
A new heating unit using electric filaments closely woven among glass fibers is being marketed by Sill Paper Co., Inc., Engineering Div., 51 Madison Ave., New York 10, N. Y. The unit is designed to give dry heat up to 700° F., and heat is said to be radiated evenly over the entire heating surface.

The units can be assembled to fit any heating situation desired—horizontal, face up or down; vertical; or curved. A minimum clearance between the heater and material being processed keeps wattage consumption low, the manufacturer states.

Heating units in curved sections are being used for supplementing textile-drying operations where dry cans do not provide a sufficient initial temperature.

Units are available in lengths and widths to fit requirements. Standard voltage, any phase, any cycle, a.c. or d.c., may be used. Units are said to be self-insulated, clean, and safe to use.

New Cloth Guider Uses Fluted Wheel



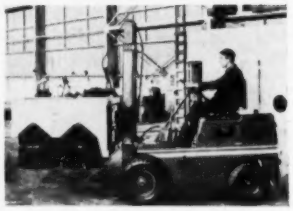
A FLUTED WHEEL turned by the cloth selvage is used to guide cloth with precision into finishing machinery.

A new high in the precision of cloth guiding in the finishing plant is claimed by Mount Hope Machinery Co., Taunton, Mass., for its new automatic guider. The new device, the company states, makes it possible to control automatically the lateral movement of cloth within closer limits than ever before possible.

A fluted selvage wheel, which is contacted and turned by the selvage, actuates a rack which, in turn, actuates the tilting of nip rolls to guide the cloth toward or away from them as required. Even the most delicate goods are said to react instantly and safely to this guiding.

The Mount Hope guider is entirely mechanical, having no coils nor air valves, and is rust and water proof. Reversible rolls are long-wearing Neoprene.

Four-Drum Carrier Offered by Clark



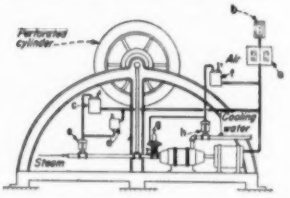
HANDLING FOUR DRUMS at one time is made easy by this new fork-truck attachment.

The Tray-Hart multiple-drum carrier, designed to pick up, carry, and tier two or four 55-gal. drums without the use of a pallet, is now listed among the special handling attachments for use on fork trucks made by Clark Equipment Co., Buchanan, Mich. The device fits over the top of drums, lifts, and moves them without need for a pallet. Clamping shoes which grip the drums are actuated by hydraulic power taken from the fork truck's hydraulic-lift mechanism. Weight of the drums serves to increase the tightness of the grip.

Manual handling of drums is almost entirely eliminated by use of the drum carrier; and damage to drums and injuries to workers can be reduced to negligibility, the company states.

The carrier unit is easily interchangeable with standard forks; and installation requires only a few minutes with the use of ordinary tools.

Decating Time Controlled Automatically



VACUUM AND STEAM CYCLES of the decating operation can be automatically timed by a new control system.

An automatic time-control system for holding decating operations at top productive capacity while maintaining uniformly high-quality output has been developed by Minneapolis-Honeywell Regulator Co., according to Brown Instrument Co., Philadelphia, Pa., distributors.

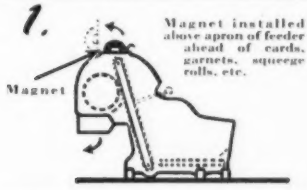
An initial installation at the plant of the Windsor Mfg. Co., Philadelphia, Pa., is said to show that exact

The A-B-C's of *Eriez* Permanent Magnetic Protection for Textile Mills

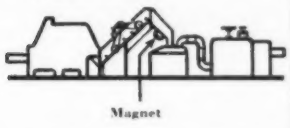
BASICALLY, there are three types of Eriez Permanent Non-Electric Magnetic Separators for the textile industry . . . Eriez Plate Magnets, Magnetic Pulleys, and Magnetic Humps. Each has been specifically designed to provide essential magnetic protection necessary in various parts of the mill. Reference to the diagrams below gives an idea of some of the more popular applications and of the Eriez methods developed to scientifically remove tramp iron. Magnetic protection, properly applied, can eliminate fire and production shutdowns—plus—damage to card and garnet clothing. The thousands of successful applications and the diversity of installations make Eriez best qualified to handle your separation problems. Have an Eriez engineer recommend the permanent magnetic equipment you need to give you complete protection against tramp iron!

A. PLATE MAGNETS

1. Magnet installed above apron of feeder ahead of cards, garnets, squeege rolls, etc.



2. Plate magnet installed in the discharge chute of a Centrif-Air Superior Cleaner.



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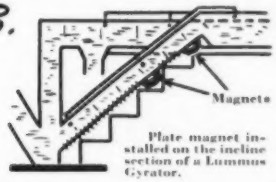
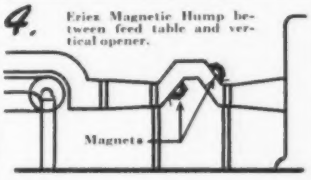


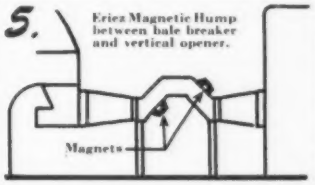
Plate magnet installed on the incline section of a Lummus Gyrator.

B. PNEUMATIC LINES

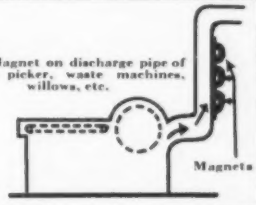
4. Eriez Magnetic Hump between feed table and vertical opener.



5. Eriez Magnetic Hump between bale breaker and vertical opener.

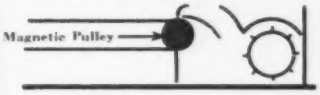


6. Eriez Magnet on discharge pipe of mixing picker, waste machines, willows, etc.

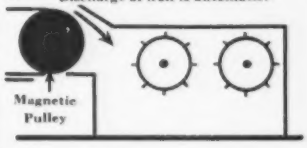


C. MAGNETIC PULLEYS

7. Eriez Magnetic Pulley installed in feed table protects vertical opener from tramp iron.



8. Magnetic pulley installed as head pulley on conveyor feeding cleaner. Discharge of iron is automatic.



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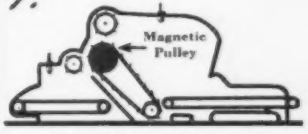

H & B Bale Breaker showing location of magnetic pulley on spiked apron.

Eriez Non-Electric Permanent Magnets Give You These *Advantages*

1. Superior Cleaning Ability. 2. No Wiring for Electric Current Needed . . . No Coils To Burn Out. 3. Cool Running . . . No Loss of Magnetism Through Heating Up. 4. Not Affected by Moisture or Wet Materials. 5. No Operating Costs . . . First Cost is Last Cost. 6. Minimum Installation Cost. 7. Simple . . . Powerful . . . Permanently Magnetized. 8. Uninterrupted Operation . . . Top Efficiency Always. 9. Easily Installed in Original Equipment.

Pioneer of **PERMANENT** Magnetic Separation

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Sweet's Process Industries File

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ERIEZ MANUFACTURING COMPANY

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and consistent timing is possible on steam- and vacuum-decating cycles. According to the manufacturer, production was appreciably increased and high-quality permanent luster, improved hand, and proper setting of widths and lengths were possible.

The system has two electric timers, one for the steam cycle and one for the vacuum cycle, which are connected to energize the vacuum timer as steaming time ends.

The control system, shown in the schematic drawing, operates as follows:

After the fabric is rolled upon a drum and the timers (a) set, the operator pushes start button (b). From this point on, the process is completely automatic.

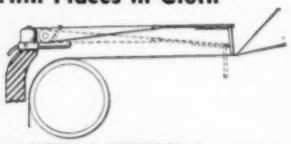
When the starter button is pressed, the timer completes an electric circuit to the coil of the electric-pneumatic relay (c) which allows compressed air to enter the line to the Pressuretrol (d) and to the Metaphram-operated steam valve (e). The normally closed valve opens, admitting steam to the drum, and the mercury switch of the Pressuretrol is held in the open position by air pressure. At the end of the steam cycle, the electric-pneumatic relay is de-energized and the steam valve closes. The Pressuretrol contact closes, starting the vacuum-pump motor.

The load contact of the vacuum timer closes, and a second electric-pneumatic relay (f) is energized admitting compressed air to the vacuum-control valve (g) and to the Metaphram-operated water valve (h). The vacuum-control valve opens, drawing air through the fabric and into the drum. The water valve opens simultaneously, admitting cooling water to the vacuum pump.

At the completion of the vacuum cycle, vacuum and water valves close and the pump is stopped. The operator pushes the reset button, which removes power from the control circuit and resets the system for the next cycle. Signal lights are often incorporated in the circuit to indicate progress of the decating process.

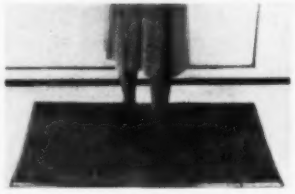
This entire control system exclusive of valves may be obtained as a packaged unit. The push-button starter, timers, and relays are panel-mounted complete with the necessary wiring and piping connections.

Detector Finds Thin Places in Cloth



***AN ELECTRIC DETECTOR** for stopping a loom which is making thin cloth has been developed by S. B. Shelton Corp., P. O. Box 1014, Columbus, Ga. The thin-place detector consists of a feeler which presses on the fabric. If thin places occur, the feeler tip drops through the cloth, making an electric contact which stops the loom. The detector has only three points of adjustment. It can be installed only on looms equipped with electric warp stop motions.*

Rubber Mats Ease Foot Fatigue



***LEG AND FOOT STRAIN** of workers who must stand on hard floors is prevented by use of sponge-rubber standing mats.*

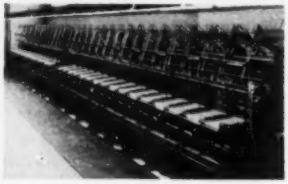
A new line of sponge-rubber mats and runners is being produced by Atlas Sponge Rubber Co., 806 E. 61st St., Los Angeles 1, Calif. Standard mats are made of resilient sponge rubber ½ in. thick by 21½ wide and in lengths of 23 or 47 in. The mats are available in black or green; other colors on special order. Edges of the mats are beveled. Runners are available in 47-in. units.

According to the manufacturer, the sponge-rubber mats are effective in increasing production, as they prevent foot and leg strain of employees who stand on concrete or tile floors. Other advantages claimed are safety, a reduction in floor noise and breakage, and increased employee efficiency and goodwill. Availability is one week.

Italian Strength Tester Operates Automatically

A multiple-end single-strand automatic yarn tester—the Autodinamografo, has been developed by Fabbriche Elettrotechniche Riunite, Milan, Italy. Ends from seven bobbins placed in clips on the machine are fed to a set of clamps. Once this has been done, successive elongations and breakings of the ends take place automatically as does recording of elongation and breaking point. The recording chart shows each individual elongation and the average of each cycle of breaks.

Lieberknecht Working On 60-Gage F. F. Machine



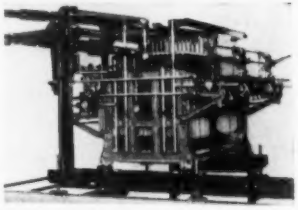
***A 60-GAGE F.F. MACHINE** installed for development tests in a hosiery mill.*

Announcement that 60-gage full-fashioned knitting machines have been built and are now in operation was made recently by Albert Friedmann, president, Karl Lieberknecht, Inc., Reading, Pa. The machines have not yet been offered to the trade, the statement continued, but engineering changes are in process.

"Although we are not certain of the relative importance of 60-gage or its potential demand, this company, in line with its policy to furnish its customers with the newest and finest in full-fashioned knitting equipment, has been experimenting with 60 gage for some time," Mr. Friedmann stated.

"Further announcement concerning the progress we are making on these machines will be made from time to time."

Double-Lift Jacquard Design Cuts Maintenance



***HIGHER SPEED** with smoother operation and less maintenance is said to be attained by this new jacquard.*

Smoother operation, reduced fixing and maintenance, and high-speed capabilities to keep pace with modern C&K high-speed looms are objectives said to be accomplished by the design of a new jacquard developed by Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

The jacquard is double cylinder, replacing the previous single-cylinder jacquard. The jacquard has 2,608 hooks.

Design cards are presented alternately to each of the two cylinders,

4-Way Saving

Read how Acme Silverstitcher methods give you savings in time, material, labor, shipping costs, storage space

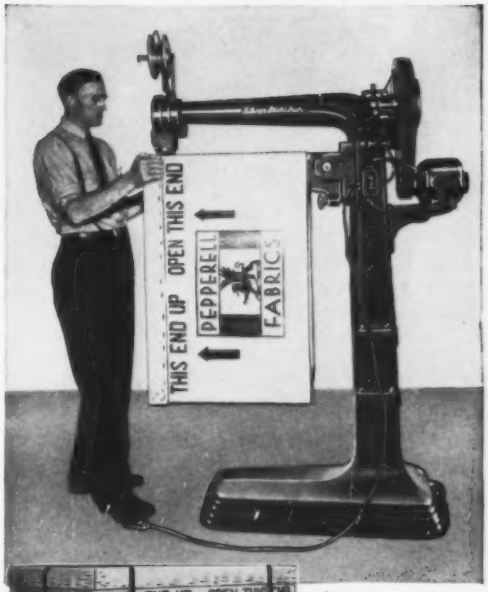
1 Save on time. Acme Silverstitchers prepare fiberboard boxes for shipment in record time. Boxes can move on a production-line basis, built as needed.

2 Save on material. Acme Silverstitch wire used with fiber boxes helps eliminate large amounts of other, more costly boxing materials.

3 Save on labor. Here's an actual case! In one customer's plant, one man, using Acme methods, prepares 5 times as many boxes per hour as he was able to assemble by other methods.

4 Save on shipping weight. Fiber boxes assembled with Acme Silverstitch wire, used in the bale method, reduce packaging costs by eliminating other heavier packaging materials.

Yes, Acme's Four-Way Savings mean increased profits for you. And shipments prepared the Acme way are safer, more secure for hundreds of users throughout the country. Let us show you how to safeguard your merchandise and cut costs. Clip and mail the coupon below.



▲ Textile carton being assembled with Acme Silverstitch . . . quickly, economically, securely.

◀ Fiberboard box of textiles ready for shipment, firmly stitched with Acme Silverstitch and bound with Acme Steelstrap. Merchandise will arrive safely at its destination without damage or loss.

ACME STEEL COMPANY

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ACME & MORRISON Silver Stitchers

REG. U. S. PAT. OFF.

AND SILVERSTITCH BOX-STITCHING WIRE

Acme Steel Company, Dept TW-19
2838 Archer Avenue
Chicago 8, Illinois

Gentlemen: Please send me your free booklet on packaging textiles for shipment.

Name.....

Company.....

Address.....

City.....Zone.....State.....

reducing the speed of each cylinder to one half the speed of the loom crankshaft, thus making high-speed operation possible with less wear and tear on the jacquard cards. Two card packs are employed instead of one, an advantage when elaborate and wide repeat patterns are woven.

Cylinders are operated entirely independent of the griffs by a cylinder lever driven by a connecting rod from a crank on the loom bottom shaft. The problem of timing the jacquard cylinders with the griffs when the cylinders were driven with the conventional "S" cams is thus eliminated.

Cylinder slide-shaft brackets equipped with Oilite bronze bushings are attached to the jacquard frame and provide outboard bearings to support the jacquard cylinders.

Cylinder gudgeons are equipped with hardened-steel sleeves operating in needle bearings lubricated by Alemite fittings located in the cylinder bushings.

Heavy-type jacquard frames, twice the weight of any previous design, are employed. Frames are equipped with oil-impregnated wood bushings for the griff shafts, with Alemite grease fittings as additional means of lubricating the shafts.

Four griff shafts are used in each frame instead of two. Griff blades are 6¼ in deep.

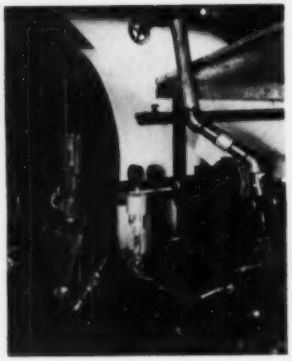
Channel-iron steady rails provide rigidity and an adjustment for the center griff racks.

A heavy I-beam adjusting-shoe arangement with four 1-in. diameter adjusting screws and four heavy adjusting shoes support the jacquard and provide a more simplified means for adjusting the jacquard height.

An adjustable triple crank on the loom bottom shaft drives the lifting and cylinder levers. Lifting-lever and cylinder-lever shafts are fitted with hardened-steel sleeves operating in Bantam roller bearings. Alemite grease fittings are used for lifting- and cylinder-lever bearings.

Lifting and cylinder levers are located above the jacquard. The griffs are thus lifted from above, reducing wear on the griff-shaft bushings in the jacquard frame to a minimum. The cylinders are much more accessible to the fixer than the previous lifting-lever arrangements. Lifting-lever bearings, bearing stands, and braces are taper-doweled throughout at the factory to insure permanent positioning of all parts and perfect alignment of lifting- and cylinder-lever shafts in their bearings.

Cooking, Storage, and Size Box Controlled



SLASHER CONTROLS include a cylinder - temperature control (left), and size-box temperature control with indicating thermometer (right).

A slasher-control system designed to provide automatically proper cooking temperatures and to insure more uniform size content in yarn has been developed by Fulton-Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville 4, Tenn.

The Fulton Sylphon system of slasher control consists of: (a) self-operated size-box temperature controller with a built-in indicating thermometer to show actual temperature of the size; (b) pneumatically operated size-box-level control; and (c) self-operated cylinder - temperature (pressure) controller, to insure a more constant drying surface, and a more uniform moisture content in the yarn.

The size-storage control insures a supply of size at the proper temperature ready for use. An indicating thermometer integral with the control is also available. Size cooking is entirely automatic. Depressing a push button places the system in operation. Size is automatically brought up to the proper cooking temperature, maintained at that temperature for exactly the predetermined cooking time; then the system shuts down and signals the operator that the cooking is completed.

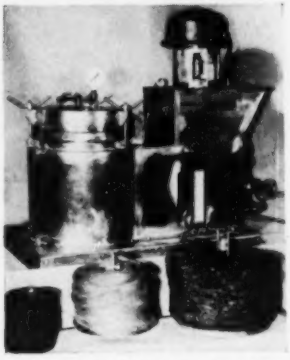
Floor Cleaner Absorbs Oil, Water

Reduced maintenance costs, increased safety, and improved working conditions are advantages claimed for Industrial Floor-Dry, a floor cleaner developed by The Eagle-Picher Co., Cincinnati, Ohio. The new drying material has a wide application as a drying agent on floors. It is a relatively hard, granular material, said to possess high absorptive properties for oil, grease, and water drippings. In actual application, the company states that Industrial Floor-Dry gives up to 200% greater effective coverage than other materials used for the same purpose.

Because of its brightness and color, the material is said to increase the degree of light reflectivity when spread over the floor, thus improving working conditions in the plant.

Industrial Floor-Dry is immediately available in 50-lb. paper bags, from warehouses throughout the country.

Laboratory Dye Kettle Is Versatile, Saves Money



STOCK, SKEINS, PACKAGES, OR TOP can be dyed in sample lots in this new laboratory dye kettle.

A new four-in-one laboratory stock-dye kettle that can be used economically to dye sample lots in stock, skein, package, or top, has been developed by Riggs & Lombard, Inc., Lowell, Mass.

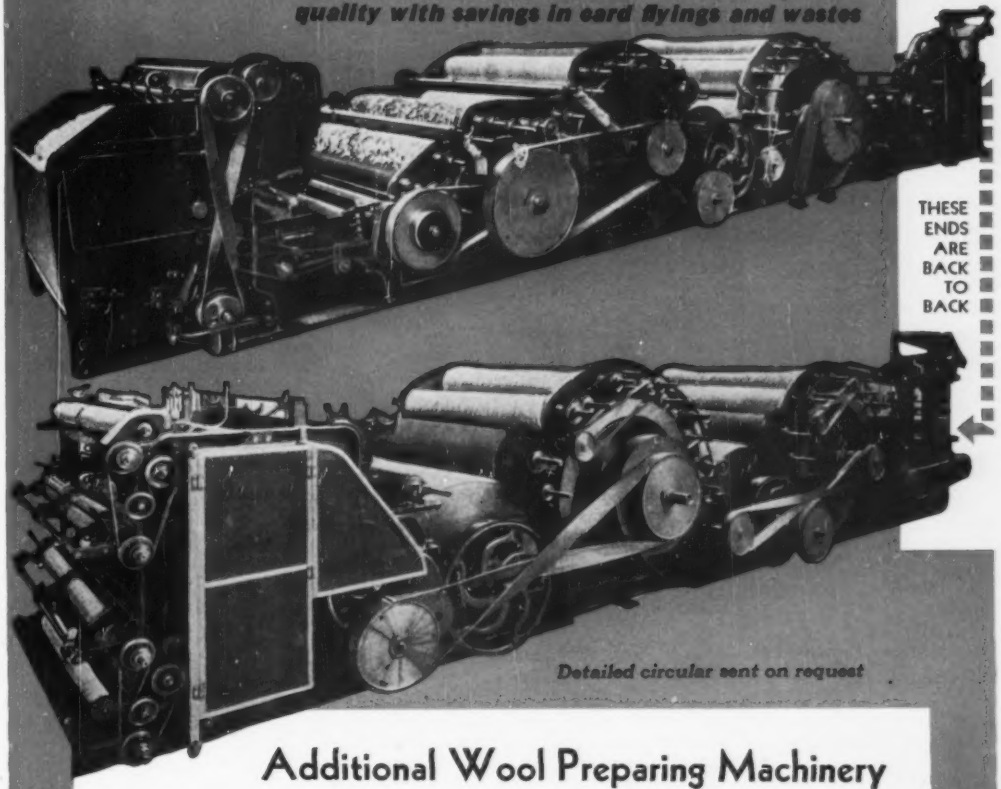
The new machine, catalogued as Model SPT, 4-lb. stainless-steel laboratory stock-dye kettle, is designed to handle sample lots of from 2 to 4 lb. efficiently and at low cost. By first dyeing in this machine, the dyer is able to set the formula for his large production unit with accuracy. The result is a saving of money as well as time, besides freeing the larger unit for production while the test is taking place.

The kettle is constructed of stainless steel. The cover is hinged and fitted with easily operated clamping handles, while a rubber gasket between the main tank and the cover insures against leakage. The motor is mounted above the machine and is directly connected to an impeller-type pump which is secured to the bottom of the expansion chamber. The stainless-steel base can be readily attached to

Duesberg-Bosson Woolen Cards

for the manufacture of Fine, Medium and Carpet Wools

Greatly increased production . . . Improved quality with savings in card flyings and wastes



Detailed circular sent on request

Additional Wool Preparing Machinery

Oiling Device • Mixing Picker (Fearnaught Type)
Picker Feeders • Automatic Card Feeders
Patented PERALTA Machine
Intermediate Center Draw Broad Band Feed
Tape Condensers
Woolen Cards with Two, Three and Four Cylinders

Duesberg-Bosson of America, Inc.

FITCHBURG, MASSACHUSETTS

a laboratory bench or similar support. The machine takes up very little space. Over-all measurements are 18 in. wide, 34 in. long, and 32 in. high.

While primarily a stock-dye kettle, the new model can effectively handle 10 half-pound skeins, and by changing the spindle, a package of top can be dyed equally as well. Wool (even noils or coarse carpet stock), cotton, rayon, and nylon can be dyed with the same efficient and economical results.

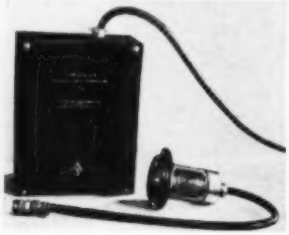
Moisture Measured Continuously Electronically

A new electronic instrument designed to measure continuously the amount of moisture in moving sheets of textile materials has been developed by General Electric Co., Schenectady, N. Y.

Materials to be checked are fed between two metal plates, and a dial on the instrument's control panel registers the moisture or volatile material content in terms of percentage.

The "monitor" takes advantage of the fact that moisture in sheet textile materials makes them better conductors of electricity, so that their conductivity can be used to indicate how much moisture they contain.

Radiation Pyrometer Measures Low Temperatures



TEMPERATURE IS MEASURED by this radiation pyrometer at distances up to 3 ft. from the heated object.

A new radiation pyrometer which operates in a low-temperature range (100 to 600° F.) has been developed by Brown Instrument Co., Philadelphia, Pa. The pyrometer may be used at any distance from the heated surface up to 3 ft.

The pyrometer system comprises three basic components: (1) the low-range radiamatic or thermocouple housing, (2) a reference-junction temperature controller, and (3) an electronic potentiometer. The latter can be any of the conventional strip or circular-chart recording models, with or without pneumatic or electric control.

Briefly, operation of the system is as follows: radiation of heat from the object whose temperature is to be measured is focused by a lens upon a group of small thermocouples (thermopile) which create a minute emf. The potentiometer receives this emf. and amplifies it in the conventional manner to operate a recording pen and, if control is included, to actuate a controlling means—such as a mercury switch.

Over-all sensitivity of the pyrometer system is said to lie between 1 and 2° F. within the range of 100 and 212° F. It's high sensitivity increases with temperature, due to the increased radiant energy being available and is said to be much better than 1° F. at temperatures above 212° F.

The pyrometer can be used in applications where the surface to be measured is rough, has a high coefficient of friction, or is adhesive in quality—conditions which prevent measurement by direct contact. In addition, it can be used for measuring objects traveling at high speed or surfaces where direct contact might mar the finish. The instrument can be successfully applied on any object whose emissivity is reasonably high and relatively constant.

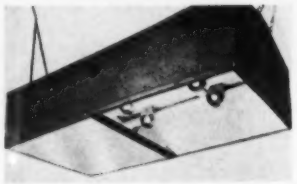
Gas Infrared Speeds Drying

Production increases of up to 200% on tenters, 100% on slashers and dryers, and 250% on singers are claimed for a new gas-burning infrared generator developed by Process Heating, Inc., 346 Warren St., Brooklyn 2, N. Y. The generator is said to burn with flameless, practically 100% combustion.

The burner is made up of special cast-iron segments, up to 12 ft. in length, in inch increments. These segments are easily disassembled for cleaning or rearrangement. A scientifically designed port permits the burning of manufactured, natural, propane, butane, mixed, or vaporfied gas against a ceramic which becomes incandescent. The burner generates infrared rays and convected heat or hot air.

The burner is designed to have a very high heat release. One foot of burner can evaporate from two-thirds to 1 lb. of water per minute without an inclosure. With an inclosure such as an oven, evaporation is said to be even higher. A further application cited by the company is in four-color roller printing using Aridye materials on fabrics to be cured at a speed of 60 yd. per min.

Examining Lamp Produces Several Light Qualities



SEVERAL QUALITIES of daylight can be produced by this new lamp to best suit the material under examination.

A new lamp, known as Examolite, for use where the closest rendition of daylight is not required but where a lamp is needed to provide illumination closer to daylight than ordinary fluorescent "daylight" alone can supply, will be marketed by the Examolite Div. of Macbeth Corp., 227 W. 17th St., New York 11, N. Y.

The Examolite offers for the first time a fluorescent "daylight" of three light qualities which may be used for ordinary shade work and flaw examination as well as general-examination illumination.

The illumination is produced by three sources of light: (1) three 40-watt (6,500°K.) "daylight" fluorescent lamps; (2) two 20-watt blue fluorescent lamps, and (3) six silver-bowl incandescent lamps of 50-100-150 watts each.

All the light combinations can be obtained by adjusting switches installed on the unit which are clearly marked for identification purposes.

One combination, consisting of three 40-watt "daylight" fluorescent lamps plus two 20-watt blue fluorescent lamps; produces a "blue-sky" effect, the intensity of which is 120 foot-candles.

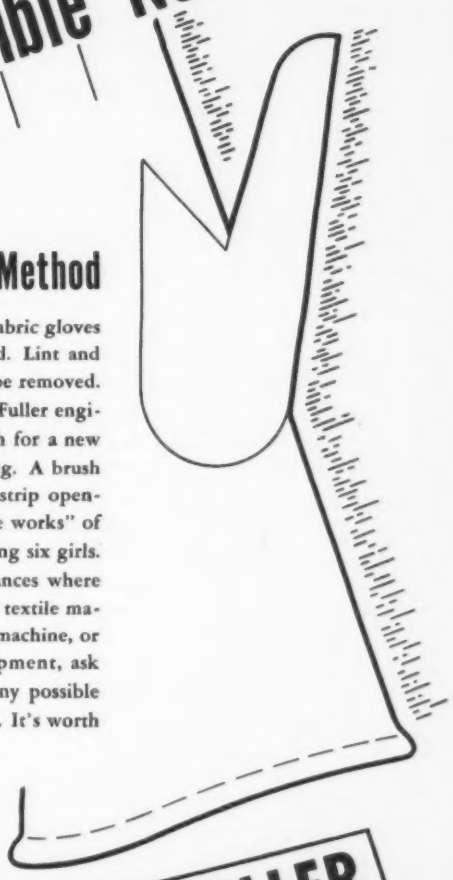
Another combination with all the fluorescent lamps plus six 50-watt incandescent lamps produces an "overcast-sky" effect at an intensity of 170 foot-candles.

By using all the fluorescent lamps and by switching the incandescent from 50 watts each to 100 watts each, the color effect is "sunlight" and the intensity is 250 foot-candles.

Because of the several spectral characteristics produced by the Examolite, a quality can be normally selected that best matches the average desirable illumination which is most suitable for the work being examined.

(Continued on page 222)

FULLERGRIPT BRUSH Makes Possible New Machine



Big Savings Over Old Hand Method

Formerly the final operation in making suede-fabric gloves was done by hand. The nap had to be raised. Lint and other foreign matter on the gloves needed to be removed. Recently The Superba Glove Company asked Fuller engineers to cooperate in designing a power brush for a new machine to do this nap raising and this cleaning. A brush was designed with a Fullergript metal-back strip open-coiled around a cylinder. Such brushes are "the works" of a machine that does the work formerly requiring six girls. This is a typical example of the frequent instances where Fuller is called in during the designing of new textile machinery. Whether you are working on a new machine, or looking for more efficiency from present equipment, ask Fuller engineers to acquaint you with the many possible applications of Fullergript strips. No obligation. It's worth your while to write today.

FULLERGRIPT — The FULLER BRUSH CO.

INDUSTRIAL DIVISION • 3594 MAIN ST., HARTFORD 2, CONN.

THIS IS NO. 73 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

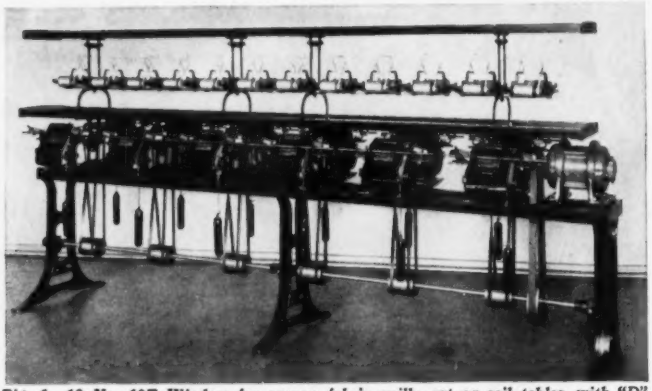


Fig. 1—12 No. 10E Winders for narrow fabric quills, set on rail tables, with "D" unrollers for spool supply. Motor drive. Can be equipped with Disc-Quil or finger tensions.

WINDING NARROW LOOM SHUTTLE QUILLS AND OTHER SMALL PACKAGES (No. 10E Winder)

The No. 10E Universal Winder consists of a single unit having one spindle that runs horizontally through the frame and extends out on both sides.

Single machines can be mounted on a stand or directly on the loom, or can be set in groups on rail tables.

The No. 10E machine can be equipped to wind both natural and synthetic yarns from various supplies such as cones, tubes and spools.

Speeds

The speed of the cam which operates the traversing mechanism should never exceed 200 rpm. Excessive cam speeds, in addition to placing undue strain on moving parts, cause a whipping action of the thread guide which in turn may cause concave ends to be wound on the package.

The speed of the spindle may range from 650 rpm to 1800 rpm, and is determined by the following factors:

number of winds on the package
nature of material being wound
number of ends going into package

Winds

The wind that should be used to produce the best package is governed by the traverse and the kind of material being wound and is best determined by experimentation. In general, one wind should be used for each half-inch of traverse.

By increasing the number of winds in relation to the traverse length, it is possible to obtain higher spindle speeds without exceeding the safe maximum cam speed. (Increasing the number of winds for any given traverse length and spindle speed decreases the cam speed—wind being the ratio of the cam shaft speed to the spindle speed.) However, in no case should the cam speed exceed 200 rpm.

Various materials make it necessary to deviate from the standard number of winds in relation to the traverse length as described above. If the number of winds is increased to any great extent, the yarn may become incorrectly spaced in the knuckles, causing it to pile at this point and form bulging ends on the package.

Quite often this condition can be relieved by changing the lay of the yarn. This adjustment is made by opening or closing the expanding gainer pulley.

Ends

Multiple-end winding requires a slower speed than that which may be used when winding a single end of yarn. This is so that the stopping mechanism may work quickly enough to prevent broken ends from running in, which would cause excessive waste and loss of production.

Tapers

The 10E machine winds both straight and taper-end packages. For the latter, a special attachment is used, having an adjustable taper bar which may be set to produce various degrees of taper. As the package increases in size, the thread guide holder moves away from the spindle, and its traverse, which is restricted by a taper bar connecting rod, gradually diminishes. Consequently a taper is formed at each end of the package.

See pages on Universal And Atwood Machinery in TEXTILE CATALOGS AND DAVISON'S

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January 1949

TESONA

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL ATWOOD® WINDING COMPANY

INCLUDING ATWOOD DIVISION

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

HOW SAFETY BUILDS GOODWILL

GLENN GARDINER

A number of textile mills point with pride to excellent safety records. There may be several reasons for this. First, textile operations are not notably hazardous. Second, a relatively high proportion of women are employed who are reputedly safe workers in operations adapted to them. But I believe that the outstanding reason is that supervisors in textile mills seem to be especially conscious of the fact that accident prevention is the supervisor's job.

Accident prevention is both a moral and legal responsibility of management. It is a moral obligation because no one wishes to be responsible for any kind of suffering. It is a legal obligation because workmen's compensation laws have been passed in all States, making the employer liable for accidents to workers.

The supervisor with a good safe record, however, has more compensation than just discharging his moral and legal responsibilities. He is rewarded with high morale in his department. His value to the company is enhanced. The same conditions that create safety, also create better quality of work. Safety and efficient production go hand in hand. The byproducts of safety are just as valuable as accident prevention itself.

A supervisor cannot evade his responsibility for safety, because a department is no safer than the supervisor makes it. What, then, is the secret of a good safety record?

First, it is the realization that safety instruction must be combined with job instruction. You cannot teach a job the *right* way, if it is not simultaneously taught the safe way. Abstract admonitions, slogans, posters, have no meaning to the worker if he hasn't been shown how they apply to his particular job. You have to make sure the worker clearly understands safety instructions by having him explain, back to you, each safety point.

A supervisor cannot depend upon a book of safety rules to give the worker the information he needs on safety. If he uses such a rule book, he must go through and check off specifically each rule the worker must know. After the worker has studied the specified rules, his understanding should be tested by having him explain each rule back to the supervisor. Finally, the supervisor should always give the reason WHY for each safety precaution.

In addition, safety instruction must be followed up constantly. The supervisor must keep workers alert by regular, periodic personal safety contacts. He must observe workers closely to detect any unsafe working practices. He should never ignore nor "shut an eye" to any violation of safety instructions. He must keep safety posters, bulletins, and instructions conspicuously posted and frequently changed.

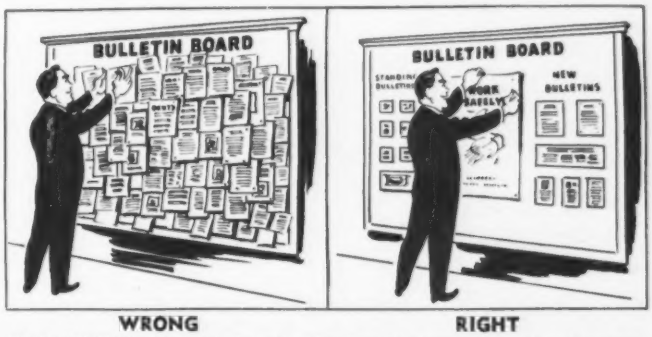
Second, there must be respect for discipline in the safe plant. Broken rules, more often than not, are responsible for accidents. But enforcing discipline is not enough. Safety must be sold to workers every single day.

Third, it helps to have safety rules jointly prepared by supervision and workers. One supervisor began a safety program by having each worker write down the rules that should pertain to his own job. These rules were then sifted and combined, and departmental rules formulated. To achieve success in safety, it is necessary to have the whole-hearted support of employees. It pleases employees if you ask them for help and advice. They are all the more enthusiastic and zealous about seeing their "own" safety rules followed. The supervisor needs the cooperation of everybody in the department.

Fourth, worker participation in formulating accident prevention programs can be secured by using committees. Such committees should act in an advisory capacity. Responsibilities which are inherently those of the supervisor cannot be delegated to workers, or to any groups of workers.

Committees often function slowly at the outset. This causes some supervisors to become discouraged and to disband them. Such action is detrimental to the future safety record of the department. Safety committee meetings should be held regularly and punctually. Eventually, they will gather momentum, and the safety spark will be ignited. Again, it is the supervisor who must carry the burden, and stimulate interest in the committee's activities. Safety committees should be rotating committees so as to give more workers an opportunity to participate. The effectiveness of safety committees can be measured by the safety record.

Active and sincere interest in accident prevention marks a supervisor as one who has the welfare of his workers at heart. This can be the foundation for better all-around relations between management and workers.



WRONG RIGHT

TO BE EFFECTIVE, safety bulletins and posters must be changed frequently and conspicuously posted.

Kinks AND SHORT-CUTS

Knitting Courses Checked With Mechanical Counter

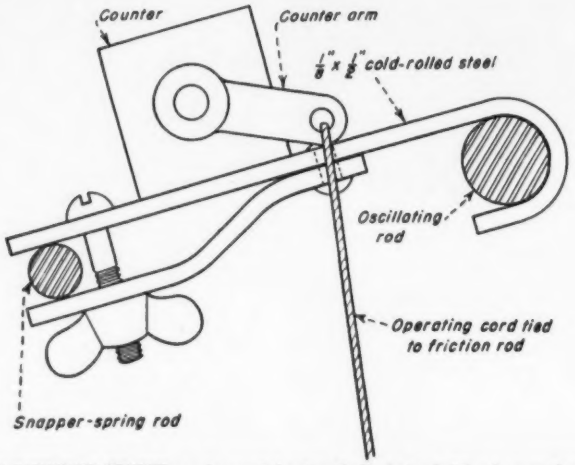
✻ **PRIZE WINNER FOR JANUARY**
(October contest)

Courses on a full-fashioned machine can be counted automatically by a three- or four-figure counter installed as shown in the accompanying sketch.

Two pieces of ⅛ x ½-in. cold-rolled steel are used as a mount for the counter. One piece must be long enough to rest on top of the snapper-spring rod, extend to the oscillating rod, and hook over the oscillating rod as shown in the sketch. The other piece of steel, about half as long as the first piece, is placed under the spring rod and bent so that it fits flat against the under side of the first piece of steel about halfway between the spring and oscillating rods.

Holes are drilled through the two pieces so that the pieces can be bolted together as shown. If a wing nut is used on the bolt at the spring rod, the counter device can be quickly put on and taken off so that spot checking of knitted courses can be done.

Attach the counter to the top piece of cold-rolled steel, with the counter arm extending outward toward the oscillating rod. With a strong cord, such as macrame, connect the counter arm with the friction rod. As the friction rod makes its stroke to move the carriers, the counter arm is pulled down and one course is registered on the counter clock.



FULL-FASHIONED COURSES can be counted automatically during knitting by a mechanical counter installed as shown here. The stroke of the friction rod will take up and let off on the cord tied to the counter arm, causing the counter to register at the end of each course.

To set the counter properly, mount it with the hook end over the oscillating rod on which the snappers (tension devices) are mounted. Place the open end of the mounting frame over the spring rod that causes the snappers to open. With the machine at the end of the coulier stroke to the right, run the connecting cord straight to the friction rod. Wind the cord once around the friction cord, keeping it free of slack, with the counter arm up. Now slide the loop of cord to the right along the friction rod until the counter arm is pulled all the way down. This position should place the cord at about the end of the right-hand stroke of the friction rod. Tie the cord securely to the friction rod.

The counter and cord are now set. When the machine is started up and makes a stroke to the left, the connecting cord will move to the left with the friction rod. For about half the

A $25 SAVINGS BOND FOR YOUR KINK

✻ **You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—before publication. In addition, we award every month a $25 Savings Bond for the accepted kink we consider most useful.**

Don't delay. Don't worry about dates. Send in your kink now. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

Writing kinks is easy. It's fun. It's profitable. Give it a try. Now.

RULES OF CONTEST

1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (pencilled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

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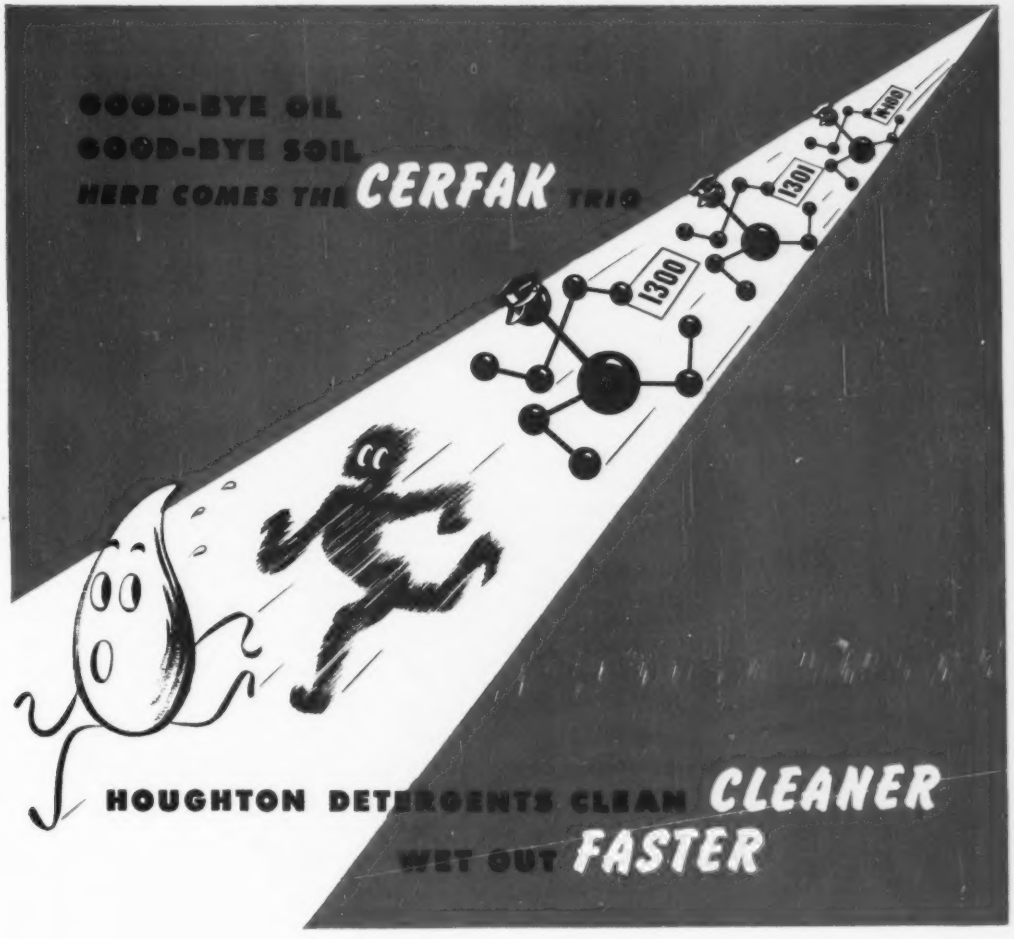
TEXTILE WORLD
330 W. 42nd St.
N. Y. 18, N. Y.

ASSOCIATE EDITOR
TEXTILE WORLD
P. O. Box 1641
Columbus, Ga.



Here are the Big Three of Houghton's line of liquid detergents—all effective for their recommended purposes, all good money values.

CERFAK 1300—A non-ionic liquid detergent and unusually fast wetting agent, having a wide range of applications. Not affected by high or low pH solutions; good in hard water.

CERFAK 1301—Also a non-ionic scouring agent effective over a wide pH range; not affected by hard water; usable on all types of fibers, particularly for scouring of woolen yarns and fabrics.

CERFAK N-100—A concentrated detergent especially good for scouring in solutions having a pH above 7, and with any type of alkali. Replaces soap on a better money-value basis.

One of these will meet your scouring needs. All are backed by our personalized mill service. Ask the Houghton Man, or write us at Charlotte 1, N. C., or Philadelphia 33, Pa.

E. F. HOUGHTON & CO.

MAKERS OF **CERFAK**

stroke, the tension the cord is maintaining on the counter arm will be let off and the counter arm will rise. During the last half of the stroke, the cord will again pull the counter arm down and cause it to register.

Narrowings will not be counted, since the friction rod remains still during the narrowing cycle.

On six makes of machines, the best place to mount the counter is at the left-hand end of the friction rod. *(K-1008)* *Walter A. Simond, Franklin, N. H.*

Canvas-Belt Conveyor Moves Wet Knit Goods

***WET KNIT GOODS** are transported from the finishing room on one floor to the drying room on the floor above by this canvas-belt conveyor. A 1-hp. motor drives the conveyor.*

Knit goods at Griffin Knitting Co., Griffin, Ga., are finished on one floor of the mill and dried on the floor above. For several years the rolls of cloth—containing 150 to 200 yd. each—were placed on wooden trucks and transported upstairs by elevator. The conveyor shown in the accompanying photograph is now used for moving the rolls.

The conveyor belt is made of wide canvas belting. It was the only material bought for constructing the conveyor. The rest of the material was on hand around the mill.

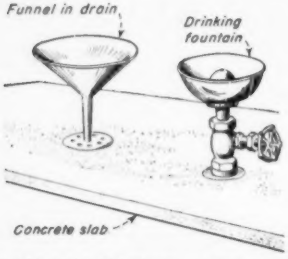
The bed of the conveyor track is made of two pieces of salvaged 3-in. pipe welded to each other with cross supports of 1½-in. angle iron. Other pieces of the angle iron were used to construct the end support shown in the photograph. A steel plate was welded to the end support, and a 1-hp. motor was bolted to the plate. Slots in the plate permit adjustment of the motor to accommodate the two V drive belts.

At each end of the conveyor bed, a section of machined 4-in. pipe is used as conveyor rolls. The roll at the lower end is connected to a drive shaft, on the end of which is the wheel pulley shown.

The cradles that hold the rolls of cloth on the belt during the inclined travel are made from ¾-in. steel rod and are attached to the conveyor belt.

The conveyor was constructed at a small cost and so far has required little maintenance. *(K-1020)* *E. Dalton White, Atlanta, Ga.*

Funnel at Fountain Keeps Drain Slab Clean



***A DRINKING FOUNTAIN** and the concrete drain slab on which the fountain is usually mounted are hard to keep clean, particularly in a room where the use of chewing tobacco is permitted. We've found that it's a big help to stand a funnel, 10 in. or a foot across the top, in the drain pipe so that liquid waste can be poured into the funnel. If you have trouble getting the funnel to stand up, a band-iron support for it can be fastened to the wall or anchored to the slab with new concrete. (K-1030)*

Amount of Lubricant Determined by Trial

Lineshaft ball bearings are doped in our mill every six months. Since we lost a few bearings as a result of overlubrication, we've worked out a routine for determining just how much lubricant to use.

The routine is as follows: About a week before the scheduled time for lubrication, our shop lubricating men select ten bearings for testing. These bearings are usually on the shaft. The first bearing is doped with one shot of lubricant, the second with two shots, the third with three, etc. The last of the ten bearings receives ten shots of grease.

The bearings are watched for several days for signs of improper lubrication, and the proper number of shots of lubricant is determined. During the scheduled lubrication of all the bearings, each one is given the same number of shots.

This routine has been used for a long while, and it has proved very successful. *(K-1027)*

Lockers Equipped With Circulating-Air System

Employees' lockers are usually objectionable for two reasons: (1) clothing damp with perspiration will not dry from the time the worker hangs his clothing in the locker and the time he takes it out again, and (2) perspiration odor seems to be always present in the locker and locker room.

We removed these features from the lockers in our plant by installing an air-exhaust system to circulate air through the lockers. Air vents in the bottom sections of the doors permit air to flow into the lockers. Air is drawn through other vents in the tops of the lockers, into a duct over the lockers, and out through a duct line connected with the exhaust fan.

Wet overalls, shirts, etc. placed in a locker at the end of a shift are now thoroughly dry by the time the worker returns for his next shift. *(K-1021)*

***EMPLOYEES' LOCKERS** are equipped for circulating air through them to dry clothing and to prevent perspiration odor. Air is drawn in at the bottom of the locker and out at the top.*

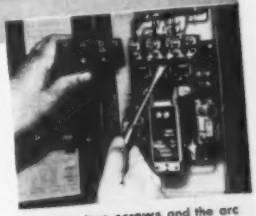
Loose Roving-Frame Rack May Prevent Ends Down

It is a common thing for all the ends on a long-draft roving frame to come down as a result of a broken cone belt or other breakage. It takes a few minutes to piece up a frame of ends, and when the frame is started up many of the ends often come down

GET COMBINATION STARTER ADVANTAGES PLUS ACCESSIBILITY

COMBINATION STARTERS are increasing in popularity because they are safe, easy to install, take less space and have good appearance.

In addition to these advantages, Square D Combination Starters, with either front-operated switches or Thermal-Magnetic (Coilless) circuit breakers, feature magnetic starters that are accessible.



Loosen two screws and the arc chamber cover comes off. Every contact surface can be inspected at a glance.

Remove two more screws and entire armature and movable contact assembly can be lifted off. Disconnect two wires from screw-type terminals and slip off magnet coil.

Contacts are attached with separate screws — can be removed and replaced without disturbing any wiring. Screw-driver is only tool needed.

Even the *BEST* Motor Starters Need Inspection and Maintenance

ALL starters require periodic contact replacement under conditions of heavy load or frequent operation. Some may require magnet coil exchange to match voltage and frequency of power supply. That's why Square D has always stressed accessibility—simplifying installation, inspection and normal maintenance.

New "Off-the-Shelf" Parts Kits make normal maintenance easier than ever!

Now, replacement parts for Square D starters are packaged in easy-to-stock kits. Each kit contains parts necessary to replace all load contacts on two or three-pole starters. Parts are individually packaged in clearly labeled envelopes. Illustrated service bulletin is enclosed for quick parts identification and complete installation instructions.

Write for Combination Starter Bulletin 8538 and Parts Kit Bulletin 9998. Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.

SQUARE D COMPANY

DETROIT · MILWAUKEE · LOS ANGELES

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again. The ends usually come down the second time because the splicings slip apart as a result of tension that existed before the breakdown.

The pressure of the flyer finger on the roving varies about 11% from the empty bobbin to the full bobbin, in response to the speed and size of the bobbin as it builds. Of course, when the ends are pieced up, the tension on the ends is slack until the bobbin winds a few rounds and takes up the slack; but the tension gear is usually too far on the tight side of the rack.

The extra work and loss of production involved in getting up the ends the second time can usually be avoided by correcting the tension at the rack. Before the ends are pieced up the first time, move the rack two teeth to the slack side. Then run the frame slowly until the cone belt finds its proper position on the cones. Piece up the ends, and run the frame slowly until the splicings are wound on the bobbins. Finally, take up on the tension again, moving the rack two teeth to the tight side.

If the tension on the ends is controlled in this manner, there will be very few ends to come down. *(K-1018)* Wm. Shaw, Providence, R. I.

Shuttle Guard on Loom Keeps Shuttle on Race

A shuttle flying out of a loom is a dangerous thing. If it strikes somebody, it may cause a serious injury. Usually, some loom or shuttle condition accounts for a flying shuttle; but if a mill frequently has a shuttle come out of a loom, it is advisable to install shuttle guards on the looms.

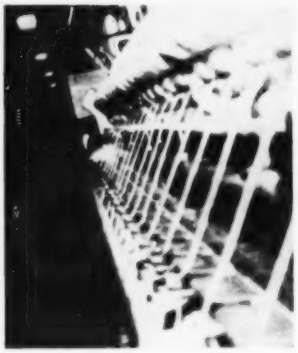
A guard that works successfully is shown in the accompanying sketch. It consists of steel-rod fingers welded to an angle-iron support. The guard can be made with any number of fingers to fit a loom of any width. For wide looms, it is a good idea to make the guard in sections for ease in handling and installing it.

As shown in the sketch, a length of $\frac{1}{8}$x1-in. angle iron is placed with the angle up. Lengths of $\frac{1}{8}$-in. steel rod $4\frac{1}{8}$ in. long are bent in approximately an *L* shape, as shown in sketch *B*. These fingers are welded to both sides of the angle iron, with the *L* ends of the fingers resting in the angle formed by the two sides of the angle iron, as shown in sketch *A*. The fingers are spaced about $3\frac{5}{16}$ in. apart.

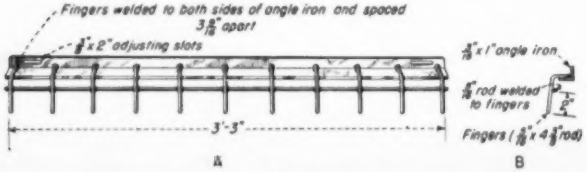
On the under side of the bent fingers, about 2 in. from the free ends, weld a crossbar support made of $\frac{1}{8}$-in. rod. Now cut a slot $\frac{3}{8}$x2 in. in the upper side of the angle iron about 1 in. from each end. These slots are used for bolt holes for fastening the guard to the front side of the reed cap.

When the guard is installed on a loom with bolts passing through the slots and the reed cap, the guard fingers extend over the shuttle race. If the shuttle starts out of the shed, the fingers will prevent it from leaving the loom. *(K-1031)* National Safety Council

Wire on Spinning Frame Breaks Singling Ends

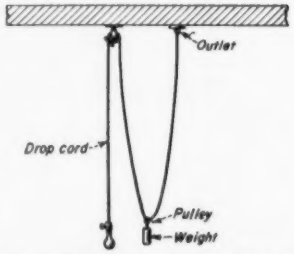


***SPINNING SINGLINGS** where double-creeled roving is used can be prevented by a wire installed as shown here. Some time ago,* **TEXTILE WORLD** *published a kink where a wire was mounted somewhat as this one is, but it was used as a "separator" to break the balloon of the yarn. This wire is placed forward so that the ends must pull over it. If a singling comes through the rolls, it will break at the wire.* **(K-922)**



***A FLYING SHUTTLE** can be held in the loom by the use of a guard similar to this one. The angle-iron support bolted to the reed-cap front holds the guard fingers in place over the shuttle race.*

Drop Light Lowered For Temporary Use



***THIS DROP LIGHT** can be pulled down for use at a lower position. When it is released, the weight pulls it up until the stop strikes the overhead pulley.*

A drop light that can be pulled down for closer inspection of work or for lighting a dark bin can be arranged as shown here.

Attach a small wooden pulley to the ceiling near the light-current outlet, and run a 50-ft. cord through the pulley. Between the pulley and the outlet, attach a small weight, heavy enough to pull up the cord and drop light. An eye bolt can be used for attaching the weight; run the cord through the eye.

Between the light and the wooden pulley, tie a stop to prevent the cord from pulling on through the pulley. The stop should be located on the cord so that it will hold the light at the proper height when it is not pulled down manually.

When the light is needed in another position, pull it down. When you are through with it, release it and the weight will pull it back up. *(K-974)* J. B. Boyter, Fitzgerald, Ga.

Store Knitting Needles In Ice Cream Cartons

When spring-needle fabric styles require changing the needle gage, the needles previously in use must be stored until a new fabric is developed for them. The interval between uses of the needles may be short or long. In any case, it is prudent to keep them in good condition so that they may be put to immediate service when necessary. To do this, some method of packing and protecting them must be provided as soon as they are taken out of the machine.

Waxed cartons such as those used for ice cream have proved satisfactory for this purpose. These cartons are airtight at all points except the top. After the needles have been placed in a carton, the top can be sealed by dipping it in melted paraffin wax. Small

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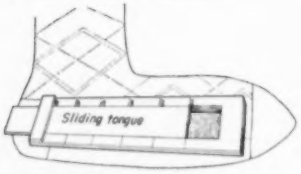
pieces of wax from winder attachments may be used.

To do a complete job and facilitate future inventory taking, the empty cartons should be weighed along with a fixed number of needles. When the cartons are filled, it is an easy matter to compute the number of needles in each carton. A gummed label marked with the gage and number of needles completes a neat and effective storage procedure. (K-950) Albert M. Young, Jr., Philadelphia, Pa.

Slide Rule Is Useful In Counting Courses



***KNITTED-COURSE COUNTING** (as well as counting picks or warp ends in a woven fabric) is made easier by the use of this slide rule. Place the rule on the fabric and push the tongue of the rule back to expose one or more inches of the cloth.*

Counting courses per inch in a knitted sock is aided by a slide rule similar to the one shown here. If one of the new lighted magnifying glasses is used instead of the old square pick counter, the rule is especially valuable.

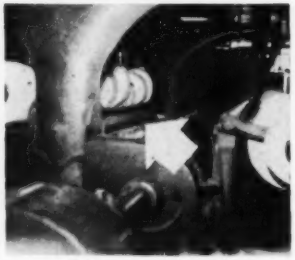
The rule can be placed on the fabric and the blank sliding tongue withdrawn to expose any number of inches desired from one to six. The frame of the rule holds the fabric flat while the count is done. (K-1011)

Use Best Adhesive For Needle-Plate Leathers

Loose needle-plate leathers on spring-needle knitting machines are a source of irritation to the operator and a waste of valuable time when bad needles must be replaced. It has long been the custom to use glue to fasten the leathers to the needle plates. However, glue dries out and becomes brittle, allowing the leathers to separate from the plates.

Better adhesives than glue are now available, and we have found that one or two of them are very good for fastening needle-plate leathers. To obtain best results, remove all grease from the needle plates before the adhesive is applied, and use only new leathers. (K-1025)

Brush on Spooler Drum Keeps Down Yarn Lap-Ups



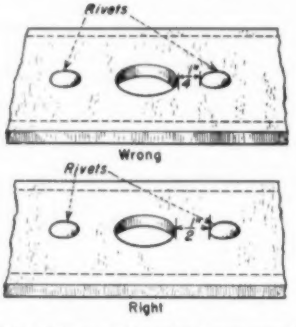
***A CYLINDER BRUSH** installed as shown here on a Barber-Colman spooler will keep the winding drum clean and prevent laps of yarn from winding around the drum. (K-919)*

Use Old Roving Spindle For Painting Bobbins

An efficient aid in painting roving bobbins can be rigged up as follows: Cut off an old spindle at the bottom of the bobbin-drive gear and weld the gear to the cut-off spindle. Now weld the spindle and bobbin gear to the cylinder shaft of a card or, better, to a shaft and pulley mounted in an out-of-the-way corner where it can be driven from the card lineshaft.

To use the spindle, place a bobbin on the spindle with one hand and use the brush with the other. If quick-drying enamel paint is used, the bobbins can be transferred from the spindle to a box; but usually it is better to stand the bobbin up for a few minutes to give the paint ample time to dry. (K-1026)

Place Bumper-Strap Rivet At Least ½ in. From Hole

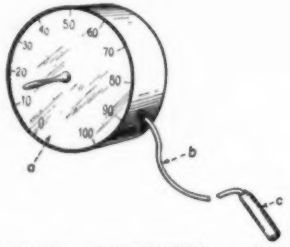


***THE RIVET** on a 7-in. picker bumper strap is often located only ¼ in. from the hole. We've found that smashes often occur because there is not enough room for the picker to clear the rivet. Care should be taken to place the rivet at least ½ in. from the hole. (K-1013)*

Capillary Thermometers Can Be Protected

Capillary thermometers, such as those used in oil tanks and radiators, can be used to advantage in processing-liquor tanks. This type of thermometer usually registers (here in England) on a dial graduated from 0 to 100° C, a in the accompanying sketch. It is equipped with capillary tube b connecting the dial with bulb c, in which is the element that contracts and expands in response to heat and causes the dial to register.

If the bulb and tube are to be subjected to considerable use, it is advisable to inclose them in stainless-steel tubing and pack the tubing with grease of a high melting point. The grease will slow down the response of the thermometer and cannot be used where rapid indication is necessary; but where it can be used, it will protect the bulb-and-tube junction from moisture. (K-1022) F. Stafford, Lancashire, England



***CAPILLARY THERMOMETERS**, graduated from 0 to 100° C., are useful in wet processing. Where the process permits, it will protect the tube and bulb to inclose them in a grease-filled stainless-steel tube.*

Use Fugitive Tint To Identify Mixed Yarn

When tickets are lost from yarn lots intended for piece dyes, it is dangerous to guess whether or not the yarn contains mixed fibers. If the yarn is not correctly identified, running it in with yarn of different fiber content may produce spotty and rowy cloth when it is dyed. For instance, a yarn containing 80% rayon and 20% wool may be going through the mill at the same time as a yarn having 40% rayon and 60% wool. If the dye is intended to take effect on only one of the fibers, the dyed appearance of the two blends would be quite different.

Fiber-identification stains (in common use in most laboratories) may be used handily in weave rooms and knitting rooms to classify vagrant yarn lots. A reeling of the doubtful yarn is

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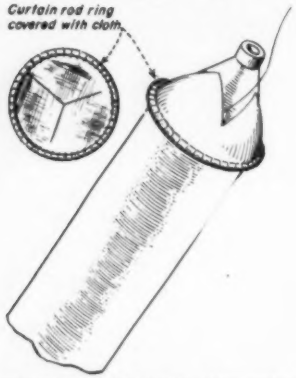
immersed in the stain along with reelings of the known yarn. After quick drying, comparison of the colors will show to which lot the doubtful yarn belongs. *(K-1024)*

Cloth on Curtain Ring Puts Tension on Yarn



***KINKING OF CREPE YARN** during unwinding can be prevented by applying tension as shown here. The yarn pulls off against cloth sewed to a curtain ring.*

One way to apply tension to crepe yarn during rewinding to prevent it from kinking is to use a metal curtain-rod ring covered with cloth, as shown in the accompanying sketch.

The ring should have a diameter about ¼ in. greater than that of the cop that is to be unwound. Cover the ring with taffeta or other pliable material, and sew the cloth on the ring so that a disk of cloth is produced with the ring at its edge. Now make three spoke-like cuts in the cloth from the center of the circle outward toward the rim, as shown in the sketch.

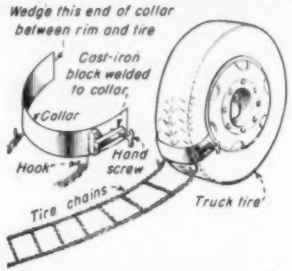
Place the covered ring over the top of the cop to be unwound, and thread up the yarn, allowing the yarn end to pull from under the cloth. *(K-1006)* *P. Laming, Sterlingshire, Scotland.*

Keep Filling Cutter Closed Until Lay Is at Back Center

Looms equipped with a three-shuttle filling-mixing automatic battery sometimes give trouble as a result of filling being cut at the wrong time by the cutter on the loom temple. (The purpose of the temple cutter is to cut the filling only on a transfer.)

To overcome this trouble, the temple cutter can be changed to cut only when the lay is at back center. This change is accomplished by attaching a spring to hold the cutter closed and attaching a strap to the protector rod on the lay. The strap should be adjusted so that the cutter will be open when the lay is at back center. In this way, the cutter will cut the filling only at a transfer. *(K-954)*

Put Chains on Truck Tire With Steel Collar and Hooks



***YARD TRUCKS** used around many Northern mills often must have chains on the tires during winter freezes. In many cases, garage attendants put the chains on and take them off; but sometimes considerable time is lost in waiting for the chains to be put on.*

The pressed-steel collar shown here provides an easy and quick way of putting on the chains. Wedge one end of the collar between the tire and rim, and force the other end between the tire and rim with the hand screw. Hook the chain to the collar, and lay the chain out straight on the ground in front of the wheel. Drive the car forward one revolution of the wheel. Then fasten the chain ends together, and remove the collar. (K-936)

Clearing-Burr-Blade Life Doubled by Turning Prong

Clearing-burr blades that have wedge-shaped retaining prongs may be reversed in the wheel for longer wear. After the regular contact surface has become too worn for use, the blades may be removed from the burr, turned upside down, and reinserted in the burr. The new contact surface will give satisfactory action, doubling the useful life of the blades. *(K-1023)* *Albert M. Young, Jr. Philadelphia, Pa.*

Yarn Stretch at Reel Can Be Prevented

Costly mistakes sometimes occur at the yarn-reeling machine when a yardage test is being made. If yarn stretch causes the yards per pound to be calculated as more than it actually is, the total manufacturing cost of the end product may be estimated at too low a figure.

Errors in the yards per pound of rayon or nylon yarn may not be great, but an error in the yardage of rubber yarn may be considerable.

We find that serious stretch may be caused at two points on the reeling machine: under the cone itself, and at the edge of the wooden stand on which the reel is mounted. If stretch occurs at the bottom of the cone, tack a strip of sheep's wool over the point where the cone sits during reeling. If the yarn catches on the edge of the wooden stand, paste a strip of paper or Scotch tape along the edge to protect the yarn from the wood. *(K-1017)*

Glass Panel in Door May Prevent Accidents

***DOORS** between passageways and processing rooms are sometimes hazardous for trucks or employees coming from opposite directions. Unless the doors are necessary for fire protection, the hazard can be eliminated by installing glass panels at vision height. (K-961)*

Spinning and Twister Tapes Cut and Sewed at an Angle

***SPINNING AND TWISTER TAPES** will last 20 to 40% longer if they are cut and sewed at an angle, as shown here, instead of straight across the tape. Cut and sewed in this manner, the lap runs smoother and the ends of the tape do not ravel. (K-1003) W. T. Cooper, Roanoke Rapids, N. C.*

They cut the high cost of making this fabric tube!

Manufacturers of textile equipment and users alike are finding that it pays to use magnesium wherever possible.

Here's a case where replacing another metal with versatile magnesium resulted in remarkable savings in job costs. The manufacturer of this fabric tube actually produced four units for the price of one. Extruded magnesium tubing eliminated such time-consuming steps as rolling, soldering and polishing. The tubing needed only to be flared at one end and given a smooth anodic treatment. There's simplicity of design and manufacture that you'll find hard to match in any material.

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Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Which Comes First, Men or Machines?

Glenn Gardiner's "When Machines Displace Men" (November) gives sound advice to the industry. We should apply the same careful planning to this problem that we give to the buying of cotton, or to the replacement of machines. Moreover, we should also show that employees and the general public share in cost-reduction; and wherever possible, we should reward cooperating workers financially. We have no tougher or more fundamental problem to face. But, more and more, we shall probably find that an error on the side of the men is better than an error on the side of the machine. Men can save us a far greater sum by consistent and efficient effort over a period of years than we can buy in an automatic machine. (R-449)

Drawing Sizes Should Be Corrected to Regain

Many mills do not consider relative humidity when weighing drawing sliver. They assume that automatic humidity controls take care of this matter. But few humidity systems can maintain uniform conditions when window ventilation is practiced in the card room. Because of the extreme changes in outside weather, the correction of drawing-sliver weights to moisture regain is just as necessary as the correction of picker-lap weights to regain. Most variations in drawing sizes can be traced to moisture changes; and if allowances are made for these variations, the changing of gears on the draw frame can be greatly reduced. Corrected sliver weights also aid yarn uniformity.

Various systems are now used by different mills for regain correction. One method requires the conditioning of sliver to standard regain in the mill laboratory before sizing. While the results of this system are precise, the time required to obtain corrected weights prevents a prompt change of draft gears in the card room.

Modified lap-weight indicators are available for use on the drawing frame. They give directly the corrected grains per yard for the humidity prevailing at the time of weighing. The system works well in the picker room and is equally successful in the card room.

It is also a simple matter to make a regain table for any standard weight of drawing sliver. The regain correction is based upon the formula:

$$\text{Corrected weight} = \frac{(100 + \%\ \text{actual regain}) \times \text{standard wt.}}{100 + 7\%\ \text{(standard regain)}}$$

Two extreme variations of drawing-sliver weights show the importance of calculating the corrected weights:

(1) Weather, rain; indicated regain, 10.39%; standard weight, 60 gr.

$$\text{Corrected weight} = \frac{(100 + 10.3) \times 60}{100 + 7} = 61.9\ \text{gr.}$$

(2) Weather, clear with high wind; indicated regain, 5%; standard weight, 60 gr.

$$\text{Corrected weight} = \frac{(100 + 5) \times 60}{100 + 7} = 58.9\ \text{gr}$$

The two extremes show a possible variation of three grains due to uncontrolled weather variation. If regain corrections were ignored in these cases, draft-gear changes would be required; and the drawing sliver made with the changed gears would be off weight when regain returned to normal.

Correction tables can be made in advance to cover all probable varia-

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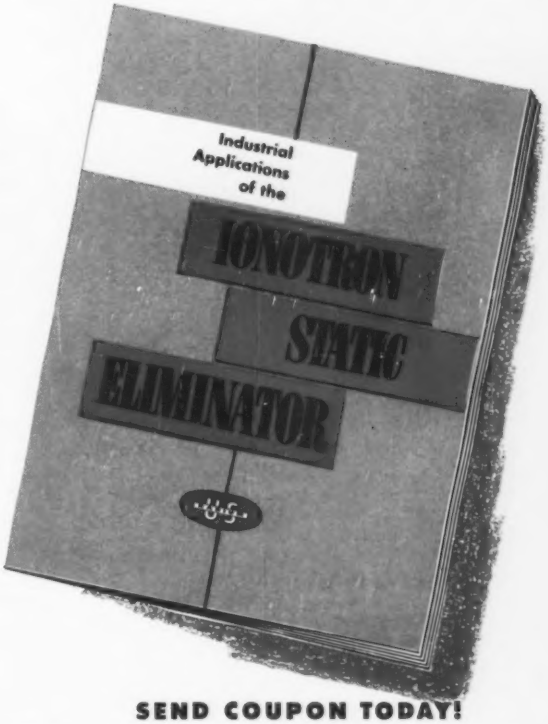

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Both new units incorporate improvements in design and function, and are adaptable to larger size containers for greater general utility. Model L1Q is constructed with a capacity of 20 pint or 20 quart jars; Model L2Q with capacity for 20 pint, 20 quart, or 6 half-gallon containers. The half-gallon size jars make possible the use of larger-sized samples for more accurate testing of shrinkage resistance. Both machines can be supplied with vari-speed drive units for operation at selected speeds between 10 and 50 R.P.M.

Both Models L1Q and L2Q are equipped with the Atlas pre-heating loading table which increases the accuracy of tests by starting all samples at the same temperature.

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Round Table

(Continued)

tions in humidity, and corrected weights can be determined quickly for any indicated regain. It is good card-room policy to have one man responsible for the maintenance of correct-weight finisher-drawing sliver rather than the drawing-section men. Effective control of drawing sizes means uniform yarn numbers and eliminates gear changes. (R-448)

Reader Is Happy

Thanks for your answer to our question on the economy of drying narrow-fabric warps with infrared lamps [Questions and Answers department, T.W., Dec. '48, p. 178]. We appreciate the full answer you gave. Our own experiments have shown that electricity consumption makes infrared-lamp drying an expensive process.

We thought our methods were at fault; but from the information in your letter, it appears that our experience is in line with results on your side of the Atlantic. Because of the expense, and the fact that it is hard to get an adequate supply of electricity here [England] in the winter months, we do not propose to experiment further. (R-425)

"Why-Don't-They" Dept. Stirs Supplier's Interest

In the July issue of Round Table, page 160, you had an article under the heading "Is There a Need for a 'Why-Don't-They' Department?" Contributor R-408 raised the question: Why don't the paper-cone manufacturers eleminate the ingredient that becomes gummy when exposed to steam?"

Apparently there is a need for an improved type of cone. As manufacturers of paper cones, we are naturally interested in meeting all requirements for a better cone. We'd like very much to investigate the need cited by the contributor of this Why-Don't-They question. (R-435)

An Easy Way To Remember Yarn Formulas

There is a need for simple, easy-to-learn, and easy-to-remember methods of calculating cotton roving hanks, yarn numbers, beam weights, and other yarn problems. Many systems have been conceived as a basic formula for such calculations. Most are mathematically correct, but many are needlessly complicated.

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Please send me further information about the use of QUADRAFOS in textile wet processing. I'm particularly interested in:

- ☐ Raw wool scouring
- ☐ Piece goods scouring
- ☐ Kier boiling
- ☐ Reducing bleach requirements
- ☐ Brighter, more uniform dyeing
- ☐ Viscosity control of printing pastes
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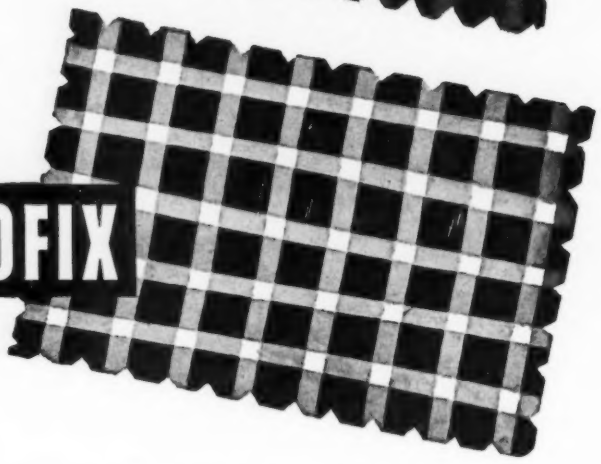
STOP COLOR BLEEDING

with *CULOFIX



Preserve crisp detail and contrast of prints by using time-tested Culofix as an after treatment.

Kill bleeding troubles no matter where they occur—in the finishing bath—batching up after dyeing—in cross dyeing, etc.

Improve water fastness of direct colors and impart a very desirable soft, full finish at the same time, thus eliminating an extra finishing operation. (Where no softening action is needed, Culofix L should be used.)

If fastness to water or prevention of color migration is essential to your direct color dyeings, write for Technical Service Bulletin #204-106.1. Our technical staff is at your service without obligation.

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Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. Cloth, warp, and tenter dryers, singers, and resin-curing machines for the textile industry are described in a recent folder issued by Industrial Heat Engineering Co.

2. Materials-handling equipment is the subject of a comprehensive 96-page catalog prepared by the Hyster Co. Pneumatic-tire lift trucks and straddle trucks are featured.

3. A lockstitch instruction book and parts list is available to users of Willcox & Gibbs lockstitch machines.

4. A universal cotton clamp for attachment to its lift-truck models is described in a folder prepared by Clark Equipment Co. Methods of handling three basic types of bales are pictured.

5. Machine-tool facilities for manufacture of textile machinery are described in a bulletin issued by Service Machine Co. A new program of expansion is outlined.

6. Steel-framed trucks of both hand and platform types are described and illustrated in a bulletin prepared by Fairbanks Co. Special-purpose trucks are also listed.

7. The maximum-feed rib-body knitting machine which features an extra-large diameter dial shaft is described in a folder issued by H. Brinton Co.

8. Doff trucks and mill boxes of hard vulcanized fiber are featured in a catalog issued by Fibre Specialty Mfg. Co.

9. The story of Felzer Mills is included in a recent issue of *Parks Parables*. Its use of overhead cleaners in spinning is also discussed.

10. Fork lift trucks and unloaders to eliminate manual handling are pictured in action in a folder issued by Towmotor Corp.

11. High-draft slubbers in operation at Saxon Mills are pictured in a bulletin prepared by H & B American Machine Co. There are also examples of other typical installations.

12. A chain conveyor for handling of cans, cases, boxes, and cartons is the subject of a catalog issued by Island Equipment Corp.

13. Harness straps of Tex-hide are described in a leaflet available from Gates Rubber Co. Six advantages are listed for the new product.

14. Lifting and pulling equipment, including a new hoist-jack and a "Mighty Midget" puller, are described in a folder prepared by Coffing Hoist Co.

15. "Industrial Opportunities in the Land of Plenty" is the title of an interesting brochure prepared by Norfolk & Western Railway.

16. A folder and stacker for textile articles is featured in a leaflet issued by Sjostrom Machine Co. An offer to fold one of your products is included.

17. Canvas-cushion wheels for quiet truck operation and floor protection are described in a bulletin issued by Divine Bros. Co. Terms of a ten-year guarantee are listed.

18. A chemical yarn-conditioning system for cotton, woolen, worsted, rayon, and mixtures is featured in a folder prepared by Kearny Mfg. Co., Inc.

19. Employers who desire to know about tax advantages for employees under approved retirement plans may procure a copy of a booklet prepared by Charles D. Spencer & Associates.

20. An escalator-type interfloor power belt conveyor is the subject of a bulletin issued by The Rapids-Standard Co.

21. Marking of shirts, corsets, and other articles after they have been stacked is described in a catalog prepared by Markem Machine Co. The Model 10A fabric printer is illustrated.

22. The "Kock-'N-Haul" truck for tote boxes, cases, boxes, etc.—a brand-new idea—is featured in a leaflet issued by Techtmann Industries.

23. The new Smith-Drum skein-dyeing machine is the subject of a catalog prepared by Smith, Drum & Co. General information, specifications, and installations are included.

MILL EXECUTIVES may secure copies of literature reviewed on these pages by using the post cards below. Fill out COMPLETELY one coupon for each piece wanted.

Instruction for use of post cards on other side

Write in box the number of item describing one catalog wanted.
Coupon void if not filled out completely

Name of my Mill .....
Street .....
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Good until May, 1949
TEXTILE WORLD, New York, N. Y. (Jan., 1949)

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TEXTILE WORLD
330 WEST 42nd STREET
NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

24. High-speed ball-bearing lubrication is thoroughly described and illustrated along with an interesting history in a recent issue of *Lubrication*, a Texas Co. publication.

25. A counting-scale bulletin complete with tabular information and a discussion of proper ratio specification is available from Yale & Towne Mfg. Co.

26. Three finishing machines are featured in a recent leaflet prepared by Birch Bros., Inc. They are a continuous crabbing machine, a heavy squeeze-roll unit, and a filling straightener.

27. Regulations for motor carriers in the 48 states are tabulated in a bulletin issued by Truck-Trailer Manufacturers Association, Inc.

28. Modernization of old motors at a fraction of the cost of new motors by use of ball-bearing motor cartridges is outlined in a leaflet from Precision Gear & Machine Co., Inc.

29. "Material Handling—Profit or Loss?" is the title of an article in a recent issue of *American Mutual Magazine of Loss Control*.

30. Fancy yarns and how to make them is the topic of a bulletin issued by Platt Bros. Machine details and several color pictures of fancy yarns are given.

TO GET MORE INFORMATION

1. Fill out completely *one space item number) for each bulletin* (name, title, company, address, and wanted. Put only one number in each square.
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My Name
Title

Good until May, 1949

TEXTILE WORLD, New York, N. Y. (Jan., 1949)

31. Pressure-sensitive cellophane and acetate tape printed to specifications is a quick, sure way to mark parts, wires, and tubing according to a folder issued by Topflight Tape Co.

32. Lint-free textile motors are featured in a bulletin prepared by Westinghouse Electric Corp. Construction features and specifications are included.

33. The answer book for your questions about steel strapping has been published by Signode Steel Strapping Co. Planned protection for shipments of every kind is outlined.

34. Problems of nylon dyeing are discussed in an interesting article in Calco Chemical Div.'s *Dyelines and Bylines*. The treatment is straightforward, non-technical, and interesting.

35. The 45-ton diesel electric for industrial switching is described in a catalog issued by General Electric. A side view shows the location of all the main components.

36. Announcement of two new machines is made in a recent issue of *Davis & Furber News*. A new large-package woolen ring-spinning frame is described as is a new electro-pneumatic spooler.

37. Battery-powered fork trucks for use where gas-powered trucks are impractical are discussed in a recent issue of *Material Handling News*, issued by Clark Equipment Co. Typical installations are described.

38. Modern batt-making with a completely automatic system is pictured in a brochure prepared by Proctor & Schwartz, Inc. All phases from opening through waste reclamation are covered.

39. Elevation of miscellaneous items to the worker at his machine can be accomplished economically with the Pressveyor, according to a bulletin issued by the Rapids-Standard Co., Inc.

40. Careers in textile engineering in England and details of various training methods offered by machinery makers over there are discussed in a booklet made available by Platt Bros., Ltd.

41. A history of American Viscose Corp. and a complete description of its current operations have been combined in a brochure published by that company.

42. Truck casters in several swivel and rigid series are described in a bulletin prepared by The Fairbanks Co.

43. The multi-record Dynalog for the recording up to six measurements on a single pen-arm assembly is the subject of a folder issued by The Foxboro Co.

44. The 2000-lb. capacity lift truck, Model 20, is described in a catalog issued by Hyster Co. Advantages of its pneumatic tires are listed.

45. Modern slasher operation with variable-speed control equipment, said to increase production and improve quality, is discussed in a bulletin prepared by Reeves Pulley Co.

46. A light-duty, gravity conveyor which is portable and highly flexible in application is described in a catalog published by Island Equipment Corp.

47. Quick determination of moisture content in bales, slivers, rovings, yarns, and fabrics is described in a Kearny Mfg. Co., Inc., bulletin on its midget psychrometer.

48. Magnesium materials-handling equipment—dockboards, hand trucks, skids, and shovels—are described in a bulletin issued by Magnesium Co. of America.

49. A high-speed tenter frame which is said to give speeds up to 250 yd. per min. is the subject of a folder prepared by Marshall & Williams Corp.

50. The free-wheeling expander for producing maximum width and eliminating wrinkles on textile fabrics and plastic films is described in a folder issued by Mount Hope Machinery Co.

LESTERSHIRE
Aluminum Alloy
JACK SPOOLS

THEY'RE LIGHTER
THEY'RE STRONGER
THEY LAST LONGER

The new LESTERSHIRE high-strength, lightweight aluminum Jack Spool completely outmodes the wooden spool.

Three "Slasher Grooves" make cutting off yarn easier; also strengthen the barrel, longitudinally and horizontally.

The LESTERSHIRE aluminum Jack Spool does NOT splinter, wear down or warp. Yarn slippage can be eliminated. Position of slasher grooves is clearly marked on the inside of each spool head. Made with durable fiber or aluminum heads. Spools in any length of traverse desired.

LET LESTERSHIRE ALUMINUM JACK SPOOLS BEGIN SAVING MONEY FOR YOU.

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Our representative will be glad to call and discuss your needs.

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If this Housing ever Breaks or Distorts we will replace it Free
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Attractive new RED Finish!

●The famous RIDGID guarantee is just one of the features that make RIDGID the outstanding favorite of millions. You also like the free-spinning adjusting nut, handy pipe scale on the hookjaw, the comfort-grip I-beam handle with flared end that keeps your hand from slipping off. For real efficiency and guaranteed economy, buy RIDGID wrenches, 6" to 60," at your Supply House.

RIDGID

WORK-SAVER PIPE TOOLS

THE RIDGE TOOL CO. • ELYRIA, OHIO

Round Table

(Continued)

an abstract statement. Each factor should be recognized for its real value and its effect on the desired answer. While these factors are expressed in alphabetical or numerical symbols, their meanings should be understood. The symbols aid the memory and offer a brief method of recording in a notebook. These symbols are expressed in the form of a balanced equation where the product of the symbols in the numerator (above the line) equal the product of the symbols in the denominator (below the line).

All yarn and hank-roving calculations are based on three factors:

G = 7,000 gr. per lb.
Y = 840 yd. per hank.
U = 8 1/3 (8.33) gr., the unit weight of 1 yd. of number 1 yarn.

The balanced-equation formula becomes $\frac{G}{Y \times U} = 1$.

This formula shows that **G** is equal to the product of $Y \times U$. Also, $\frac{G}{U} = Y$; and $\frac{G}{Y} = U$.

Substituting the value of each factor:

$$\frac{7000}{840 \times 8\,1/3} = 1; \frac{7000}{8\,1/3} = 840;$$

$$\frac{7000}{840} = 8\,1/3.$$

Three additional symbols are necessary if you want to develop formulas for the calculation of hank and yarn numbers:

N = hank or yarn number.
L = length in yd. of roving or yarn reeled.
W = weight in grains of roving or yarn reeled.

The balanced equation formula becomes $\frac{L \times U}{W \times N} = 1$. With three values known, the fourth may be found as follows:

$$L = \frac{W \times N}{U}; W = \frac{L \times U}{N};$$

$$N = \frac{L \times U}{W}.$$

The values for the symbols are: L, 120 yds.; W, 100 gr.; N, 10s yarn; U, 8⅓ gr.

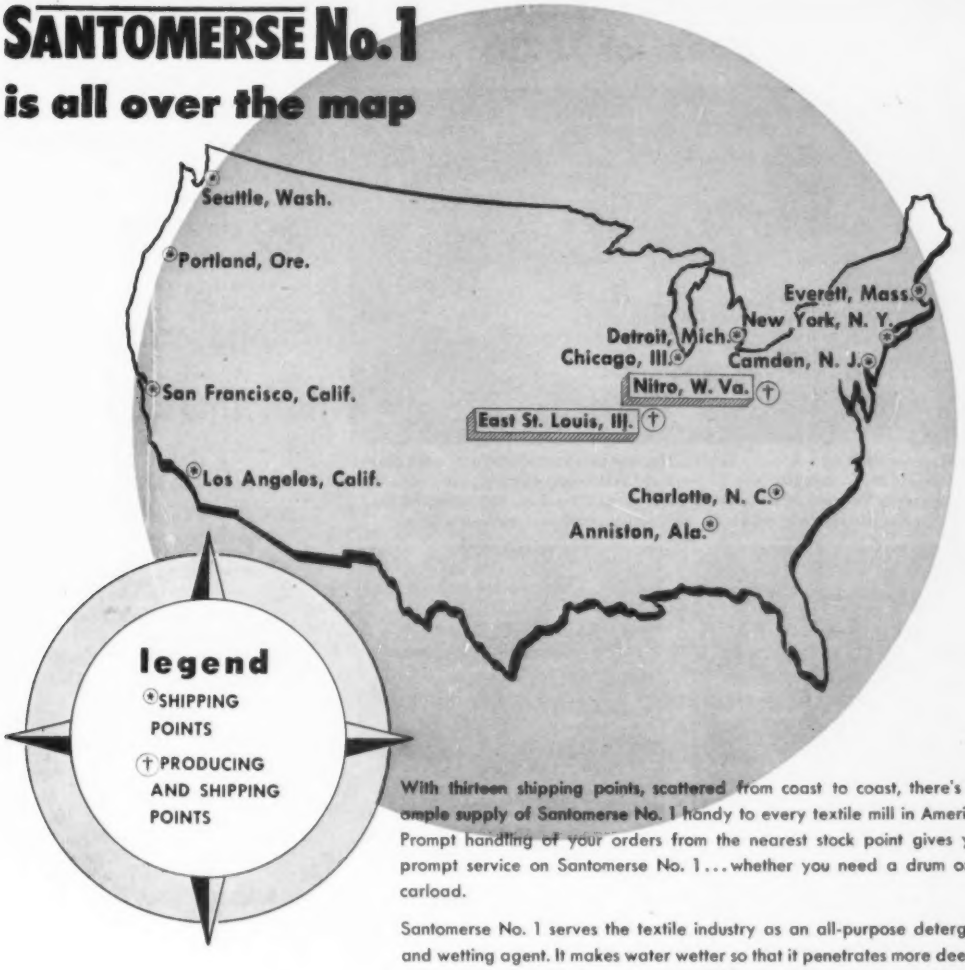
Then, the balanced equation becomes $\frac{120 \times 8\,1/3}{100 \times 10} = 1$.

And, $L = \frac{100 \times 10}{8\,1/3}$; $W = \frac{120 \times 8\,1/3}{10}$;

$N = \frac{120 \times 8\,1/3}{100}$.

Usually 12 yd. are reeled for roving. Multiplying this by the unit weight of 8⅓ gr. gives a convenient constant of 100 which must be divided by the actual weight of 12 yd. to obtain the hank roving. Similarly, 120 yd. of yarn are reeled for yarn, and this mul-

SANTOMERSE No. 1
is all over the map



With thirteen shipping points, scattered from coast to coast, there's an ample supply of Santomerse No. 1 handy to every textile mill in America. Prompt handling of your orders from the nearest stock point gives you prompt service on Santomerse No. 1 . . . whether you need a drum or a carload.

Santomerse No. 1 serves the textile industry as an all-purpose detergent and wetting agent. It makes water wetter so that it penetrates more deeply and more thoroughly. Santomerse No. 1 lifts out dirt and grease and holds it in suspension so that it is carried away in the rinse. Santomerse No. 1 is effective in hard or soft, hot or cold water and in both acid and alkaline solutions.

For complete details, mail the coupon, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk A, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri. *Santomerse Reg. U. S. Pat. Off.*

DISTRICT SALES OFFICES: New York, Philadelphia, Chicago, Boston, Detroit, Cleveland, Cincinnati, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Portland. In Canada: Monsanto (Canada) Limited, Montreal.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY
Desk A, Phosphate Division
1780 South Second Street, St. Louis 4, Missouri

Please send, without cost or obligation, a copy of Bulletin P-118, "Santomerse No. 1 . . . The Modern All-purpose Detergent and Wetting Agent."

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SERVING INDUSTRY . . . WHICH SERVES MANKIND

Seven new planes completed ...at a cost of $4.30!

New planes can't fly without control cable, and this manufacturer needed some —fast. He got it the same way he regularly gets many supplies and parts—by Air Express. Ordered in A.M., delivered to plant same day. 500 miles, 28 lbs., Air Express charge only $4.30. So production continued without a break.

$4.30 included pick-up and delivery at no extra charge—and receipt for shipment. All this, plus the *world's fastest shipping service*. That's Air Express—used with profit by every business.

Shipments go on all flights of Scheduled Airlines. Speeds up to 5 miles a minute—no waiting around. Direct service to over 1,000 airport cities, air-rail for 22,000 off-airline offices.

Facts on low Air Express rates:

22 lbs. of new fashions goes 700 miles for $4.73.
6-lb. carton of new jewelry line goes 1,000 miles for $2.24.
Same day delivery in both cases if you *ship early*.

Only Air Express gives you all these advantages: Special pick-up and delivery *at no extra cost. You get a receipt for every shipment* and delivery is proved by signature of consignee. One-carrier responsibility. Assured protection, too—valuation coverage up to $50 without extra charge. Practically no limitation on size or weight. For fast shipping action, phone Air Express Division, Railway Express Agency. And specify "Air Express delivery" on orders.

SPECIFY AIR EXPRESS
GETS THERE FIRST

Rates include special pick-up and delivery door to door in principal towns and cities

AIR EXPRESS, A SERVICE OF RAILWAY EXPRESS AGENCY AND THE
SCHEDULED AIRLINES OF THE U. S.

Round Table

(Continued)

tiplied by 8½ gives a constant of 1,000 which is divided by the weight of 120 yd. of yarn to obtain the yarn number.

Balanced-equation formulas may be applied to beam calculation by adding the symbol for number of ends, E, to the basic formula: $\frac{L \times E}{W \times N \times Y} = 1$.

Values are: L, 30,000; E, 310; W, 369; N, 30.

The formula becomes:

$\frac{30,000 \times 310}{369 \times 30 \times 840} = 1$. With four known factors, and solving for the unknown factor:

$L = \frac{W \times N \times Y}{E}$, or $\frac{369 \times 30 \times 840}{310}$.

Answer, 30,000 yd.

$W = \frac{L \times E}{N \times Y}$, or $\frac{30,000 \times 310}{30 \times 840}$.

Answer, 369 lb.

$N = \frac{L \times E}{W \times Y}$, or $\frac{30,000 \times 310}{369 \times 840}$.

Answer, 30 yarn.

$E = \frac{W \times N \times Y}{L}$, or $\frac{369 \times 30 \times 840}{30,000}$.

Answer, 310 ends on beam. (R-450)

Knitting Mending Needles Are Not Widely Used

In reading the August issue of TEXTILE WORLD, I noticed the illustration of a mending hook on page 174. It seems to me the title of the answer to Question 9254 was correct—Mending Knit Goods May Not Be Economical—at least with such a hook.

In the Jan. 21, 1922, issue of TEXTILE WORLD, you published my description and sketch of the old English mending hook, which has been widely used. I called the Franklin Needle Co. about them; they have made them in the past in four gages (42 to 51) but are not making them at present. They said they might possibly find one or two if they knew the gage wanted.

Some menders prefer a very fine latch needle with a short latch (and I like them best), but most of the work at the mill is now done with the small electric run menders. *(R-431). Walter A. Simond, Franklin, N. H.*

Jimson Weed or Orchid?

To September Round Table writer, R-423, my choicest Jimson Weed for the suggestion that mills hire spare hands to stand by for regular workers while the latter run off to the cafeteria. We have a cafeteria, but our workers have regularly scheduled lunch periods with machines stopped. (R-446, Greenville, S. C.)

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. JANUARY, 1949

Avisco "Filamatic" Continuous Spinning Process Fundamental Advance in Rayon Technology

The discovery of an entirely new high-speed spinning technique by research engineers of American Viscose Corporation has resulted in a new continuous spinning process for rayon textile yarns.

The process, called "Filamatic," involves the use of a machine that is smaller, faster, and more efficient than machines now in general use.

It requires only a matter of seconds to produce dried and finished yarns as contrasted to the many hours consumed in the pot-spinning procedures.

New Process Produces Yarn of Superior Quality

Avisco yarns spun by the new "Filamatic" process have undergone extensive tests by the Textile Research Department of American Viscose. The results show that the yarns are remarkably uniform both in physical characteristics and dyeing qualities. Fine and medium yarn sizes can be produced by the machine—as well as the various lusters, twist ratios and package put-ups required by the textile industry.

20 Million Pound Capacity to be Installed

Work is already going ahead for the installation of the new "Filamatic" machine in one or more of American Viscose Corporation's viscose rayon yarn plants. However, the new installations will represent additional spinning capacity and will not replace present pot-spinning capacity.

The "Filamatic" process is an exclusive development of the American Viscose Corporation, and no licenses will be required for the construction or operation of the new high-speed machine. It is the culmination of a generation of research and development work on the part of the Corporation and can be regarded as one of the greatest fundamental advances in rayon technology, ranking in importance with the Topham spinning box, the double-godet, and continuous cake processing.

RAYON 20 YEARS AGO

NEW YORK, January, 1929—Beach pajamas made of rayon and sponsored by the smart world are a fashion success. They are seen now at the winter resorts, and will appear in increasing numbers in the summer.

LONDON, January, 1929—The term "Rayon," as a substitute for "artificial silk" is at last being adopted by the trade in Great Britain. The leading producers announced their acceptance of the term in an advertisement last week-end.

NEW YORK, January, 1929—Rayon bedspreads with immense popular appeal are on the market and will be placed on hundreds of thousands of beds in American homes during the next few months.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

The 1, 2, 3 of

NAMICO Textile Soap Products

These three factors make NAMICO Textile Soap Products the positive choice for finishing operations . . . factors that are basic considerations of economical, profitable textile mill operation.

NAMICO QUALITY—Made possible by rigid control of manufacture that meets exacting standards of skill.

NAMICO SERVICE—Each NAMICO soap product is engineered and serviced to your specific needs by experienced mill-trained representatives.

NAMICO EXPERIENCE—Gained by over a half a century of soap-making craftsmanship.

These are the essentials of highest quality textile soap products, and NAMICO provides all three.

So if you want the best results in your textile mill finishing processes, let an experienced NAMICO representative consult with you on your soap problems.

National Milling & Chemical Company

Industrial Soap Products

4601 NIXON STREET, PHILA. 27, PENNA.

Questions and Answers

Several Types of Waxes Used to Finish Corduroy

Technical Editor:

What type of wax is used on the peggers in processing corduroy? (9275)

Several types of wax are used for pegging corduroy. Among them are paraffin wax of various melting points, Japan wax, beeswax, and carnauba wax. These waxes are used singly or in blends.

Since most corduroy finishers work out their own formulas, you probably will have to carry on a little research to determine which wax or combination of waxes will give you the finish you desire.

Sloughing of Rayon Yarn Causes Trouble in Weaving

Technical Editor:

The inclosed two quills, one filled with 75-den. Bemberg 3½ turns and the other with 75-den. Matesa, were wound on a No. 90 winder with a No. 5 wind. The stroke is the second hole from the top of the traverse lever, tension about 40 grams. We have trouble with the filling coming off in bunches, as on the quills inclosed.

We have tried a larger quill and a number of other things, but we still have quite a bit of filling coming off. Can you help me with this problem? (9277)

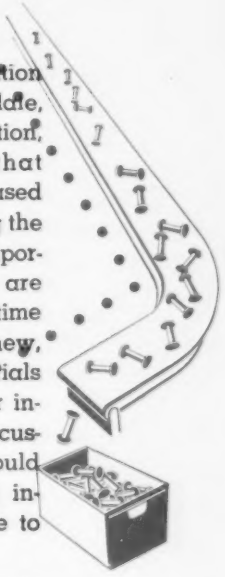
The samples indicate that humidity in your weave room may be too low. On the bright Bemberg* and the semidull Matesa, a 70% humidity reading would be about right.

In some weave sheds, damp cloths are used over the supply of Bemberg loom boards and quills to keep the yarn fairly moist. It would be advisable to keep the quill supply as low as possible to keep fresh stock moving into the weave room.

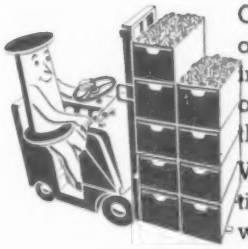
When loom boards are refilled, move all the remaining quills down onto the bottom pins and place the new stock on the top pins. Magazine fillers keep taking quills off the bottom pins for loading the magazines, and moving quills from top pins to

A lot of things have happened at BOBBIN HEADQUARTERS

It took a little time, but it means better service to you in 1949



During April, 1947, we announced the consolidation of Cloverleaf Manufacturing Company, Honesdale, Pa., and Freeland Spool and Bobbin Corporation, Hazleton, Pa. We reported at that time that deliveries would be expedited through increased production, streamlining and departmentalizing the combined facilities of our two plants. These important steps have at last been completed, we are happy to state, though they consumed more time than was expected with the installation of new, specialized machinery and the latest materials handling equipment. We regret any delays or inconveniences which involved deliveries to our customers during this changeover, but 1949 should result in faster, and better service. Through increased production, every effort will be made to bring about lower prices for you.



Cloverleaf-Freeland engineers have created spools and bobbins for many specific requirements and individual needs. This creative thinking, planning, and doing by Cloverleaf-Freeland is recognized throughout the Textile Industry.

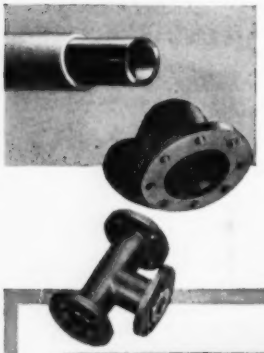
With the streamlining described above, we will continue to maintain our high standards of quality and workmanship.

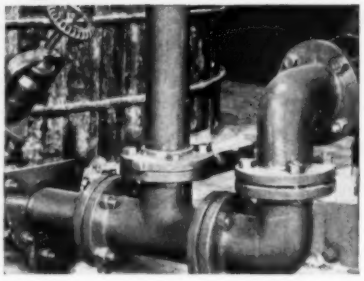
CLOVERLEAF-FREELAND CORP.
Honesdale, Pa. Hazleton, Pa.

Southern Rep.: James T. Gordon, 1013 Woodside Building, Greenville, S. C.
New England Rep.: R. F. Makepeace, 9 Rhode Island Ave., Warwick Neck, R. I.

CLOVERLEAF-Freeland BOBBINS

saran lined steel pipe





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Saran Lined Steel Pipe comes in maximum lengths of 10 feet and in sizes from 1 to 4 inches. Plug valves and fittings, also Saran Lined, include elbows, tees, companion and reducing flanges, and gaskets. AVAILABLE IMMEDIATELY. Write us today for further information concerning Saran Lined Steel Pipe and how it can solve your problem. Manufactured by The Dow Chemical Company, distributed nationally by Saran Lined Pipe Company.

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DOW
CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

Questions and Answers

(Continued)

bottom pins guards against quills remaining too long on the board.

Use a slightly longer winding stroke to take advantage of the paper quill's serrated surface. Both samples show a loose condition near the start; and on the Matesa yarn, the tension disk seemed to hesitate at the back stroke and build yarn in a loose ringer condition that will give many small slough-offs of four to five ringers around the quill as weaving progresses. Usually this form of small ringers has a tendency to cause considerable filling breakage.

Where sloughing-off is heavy, the shuttle fur should be increased. On the ringer type of slough-offs, it is often necessary to cut the fur lengthwise through the center to permit the yarn to move off the quill more readily.

Slough-offs can also be lessened by raising the power strap as high as possible on the left-hand side to give a light pick into the right-hand box. At times, if the condition is really serious, it may be necessary to move the revoker tip out farther to permit a late shuttle entry in the right-hand box without causing the knock-off to function. The shuttle will usually move back into the correct position for a suitable transfer. Of course, this fixing angle must be carefully watched at first to prevent transferring smash-outs and other trouble. It will allow softer quills to be run off without too much waste.

Check your winder spindles, and keep a tab on the various looms giving the most trouble. If several spindles are making the slough-offs, check back to the looms. Place the numbers of these spindles on looms having less trouble. By checking and keeping careful tabs on spindles and looms, the trouble can usually be lowered to a margin where the waste is not too harmful.

An odd practice that has worked in one mill is to dip the quills of Bemberg in gasoline just before they are boarded for the looms. This mill reports that sloughing-off has been stopped. If you try this trick, keep a careful watch for barré cloth.

* *Bemberg is the trademarked name of American Bemberg Co. for its cuprammonium-process rayon yarns.*

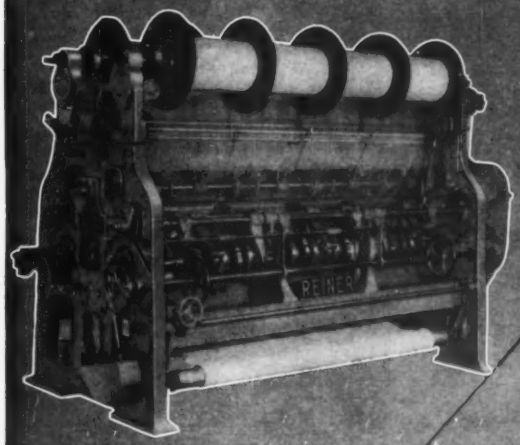
Warp Streaks in Twill Caused by Mixed Yarn Lots

Technical Editor:

I am sending you a sample of rayon twill that was woven on XD Draper dobby looms, the warps being made on the cotton system.

If you look at the fabric warpwise, you

the new REINER



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a full line of preparatory equipment such as creels and warpers for all requirements, warping spools, hydraulic beam lift wagons, stop motion equipment, and other auxiliary items, thus giving the knitter a continuous line from start to finish, all available from one source.

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The new Reiner Simplex Machine is ready for your inspection. You are cordially invited to write to us for an appointment.

The Reiner Simplex Machine is of the most modern construction and its features make it the most economical producer of the finest Simplex cloth yet made. It takes spools up to 21 inches in diameter, or any spools of the conventional size. Knitting width 84 inches.

For those interested in the manufacture of gloves, swim suits, sport shirts, sport jackets, sport shoes, bed jackets, hand bags, slip covers, night gowns, and dresses, to see this machine is a "must."

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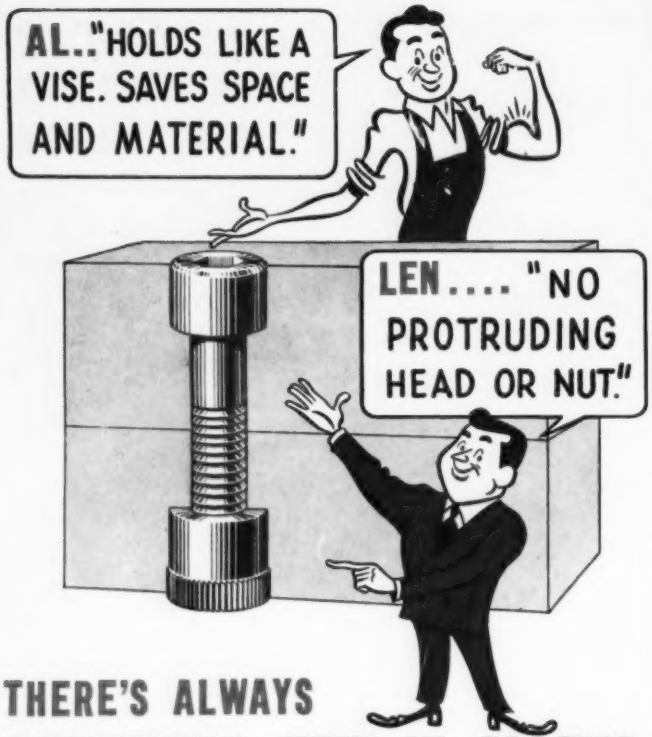

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*Patent applied for

WARNING
Allen-TYPE screws aren't necessarily Allen-MADE. Be sure to get genuine ALLENS in the black and silver box.

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Questions and Answers

(Continued)

will notice a pronounced repeat ever so often throughout the width of the cloth. I would like to have your opinion on what is causing this defect. The warp was drawn on 6-harness, straight draw. (9279)

The fabric has a nice hand and dyeing appears to be clean. The chances are that the uneven penetration of the dye is due mostly to a mixed yarn lot.

Mixed yarns can happen in several ways, but in this instance it appears that several cases of the old lot were used with a new lot in the following manner: When the creel was banked on a fill-in, new yarn was started on one side. When banking reached near center and proceeded toward the back, an old lot was filled in. On the opposite side of the creel, the creel was banked with the new lot.

Rayon yarns made of pulp from different sources differ considerably. When dyed, the different yarns may produce various shadings. For this reason, lot numbers should be kept apart.

The nature of this defect precludes the chance that the defect resulted from shaft timing. The practical method of timing the XD on this weave is at front center. Keep the warp back to avoid a taut tension. The best method of decreasing the defect would be to take this trouble to the finisher and try some other method of scouring and processing. Additional luster or some change in finishing may hide the defect sufficiently to pass the goods as first quality.

However, the real solution lies in keeping different lots of yarn separate from each other.

Worsted Filling Streaks May Be Caused by Loom

Technical Editor:

We are inclosing a sample of brown worsted cloth that shows signs of filling streaks. Can you tell us what caused them? (9280)

There are a number of conditions that could cause filling streaks such as those in the sample. Although the cloth seems to be woven evenly, it would be wise to check for loom faults that could cause the trouble.

You did not state whether the streaks appear in cloth woven on one particular loom or whether the condition is general. If the faulty cloth comes from only one loom, the take-up and let-off motion should be checked. A head motion set for a very early harness crossing sometimes causes this fault. Steaming the filling too long and weaving it before it dries thoroughly may cause the

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U.S. TEXTILE MACHINE CO.

600 Gilligan St.—Scranton 8, Pa., U.S.A.

Questions and Answers

(Continued)

trouble. A cracked porcelain in the shuttle eye may roughen up the yarn and show streaks.

There is also a possibility that the yarn is made of mixed stock. Different qualities of wool will take dye differently. If the yarn is stock dyed, it could be mixed lots or off-shade dyeing.

If you have some of the faulty goods on hand, the shade might be leveled off by running the fabric through the dye kettle again. Of course, this can be done only if the cloth was piece dyed.

Latch or Spring Needles Selected for Type Fabric

Technical Editor:

Will you tell me briefly what is the basic difference between spring-needle and latch-needle knitting machines, from the standpoint of the fabrics they knit? (9276)

Spring-needle machines, because of the rotary, gear-like action of the feed parts, may be run at fairly high speed. Latch-needle-machine feeds are controlled by "step" cams with rather sharp direction changes and are not conducive to high speeds. The spring-needle machine will stand up under high speed over a longer period of time and with less wear.

Because of the high speed, production rate is good on spring-needle machines. However, the wheel-type feed occupies greater space than the cam type; and while 24 feeds are normal on the latch-needle machine, six are approximately standard on spring-needle machines. The exact number varies with the type of feed.

If plain jersey is to be produced, the latch-needle machine (24 feeds) would insert 24 courses each revolution, while the spring-needle machine would insert six (eight are possible). If double-plush fabrics are made, the latch-needle machine would insert six courses instead of twenty-four and the spring-needle machine would insert four instead of six or eight. The reason for this difference is that each latch-needle feed handles only one end of yarn and each spring-needle feed may take four ends (as in a stockinette set-up). If it were possible to duplicate exactly the spring-needle, double-plush, stockinette fabric on the latch machine, four latch feeds would be required for each spring-needle feed.

Plush yarns are laid in on latch machines and tied in on spring-needle machines. Laid-in yarn does not go in with the loop of the stitch; tied-in yarn does. If broken lay-in yarn (in

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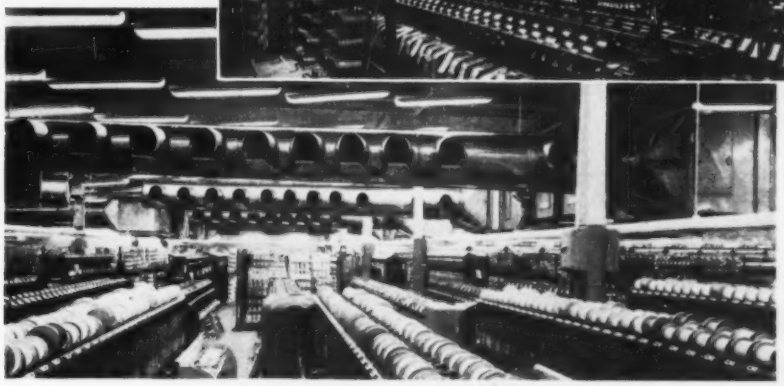
Bahnson Humiduct Air Conditioning System using stainless steel distribution ducts for controlled conditions in the rayon weaving department of Robbins Cloth Mill, Red Springs, N. C.

Bahnson Central Station Air Conditioning System provides controlled conditions in rayon preparatory department of Robbins Cloth Mill, Robbins, N. C.



Bahnson Stainless Steel Humiduct Air Conditioning System with eliminators to deliver saturated air for controlled conditions in rayon throwing department of Robbins Cloth Mill, Robbins, N. C.

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the fabric) is pulled, a long length may be extracted from the cloth. Tied-in or knitted-in yarn is very difficult to pull out. It would follow that the spring-needle fabric is more durable and stable for napping purposes. Therefore, most napped goods (fleece topcoating, overcoating, baby blankets, snow suiting) are made on spring needles.

Since the number of feeds on spring-needle machines is limited, the height of the pattern is limited. Breadth of the pattern is limited by the diameter of presser wheels. (Too large a wheel cannot be rotated by the needles.)

Jacquard-type latch machines control every needle, and idling devices permit very large vertical patterns. Almost any type of pattern may be made on a latch-needle machine. This adaptability makes the latch-needle machine superior for producing women's fancy dress goods and novelty fabrics.

Good fabric is always possible from a spring-needle machine according to the skill and integrity of the operator. Damages may be taken out and good fabric stitched back on. This factor is one of the important considerations in determining the machine for producing topcoating and overcoating of expensive fiber content (camel hair, mohair, vicuna, etc.). Any appreciable amount of spoilage would force the price out of the popular range.

When a damage occurs on a latch-needle machine, nothing can be done about it. A yardage allowance must be made if the damage is small; if it is great, the piece is usually split and sold as short ends.

Type of Loom to Use Depends on Fabric Weave

Technical Editor:

I should like some clear explanation of the relative merits of cam and dobby looms for woolen-goods manufacture. I have been offered many 4x1 cam-motion looms, but everybody I talk with in woolen mills tells me they are not good for that type of work.

I have a book on yarn and cloth calculations. The author stated in the book that with an auxiliary camshaft all kinds of weaving can be done on a cam loom, and more economically than on a dobby loom. (9238)

Before a loom is bought, the first thing to determine is what kind of fabric you wish to weave on the loom. Basically, the two categories of fabrics and looms are plain and fancy.

A cam loom will weave twills and

Memo on Modernization

Why So Many Mills Specify . . . HUNTER High Production FULLING MILLS

A line of Hunter Fulling Mills in a modern New England mill.

Hunter Fulling Mills at Botany Worsted Mills

The illustrations on this page show many high production Fulling Mills as installed in a New England woolen mill and at Botany Worsted Mills. Hunter Fulling Mills are equipped with every possible new improvement, such as sectional rubber rolls, stainless steel linings, throats, stop motion and whip roll. Hunter Mills may also be fabricated entirely from stainless steel. These units can be equipped with pneumatic pressure for both top roll tension and crimping box tongues. They may, of course, be equipped with or without motor drives.

For full details we invite you to send for catalogs and the names of many prominent users—no obligation of course. Write.

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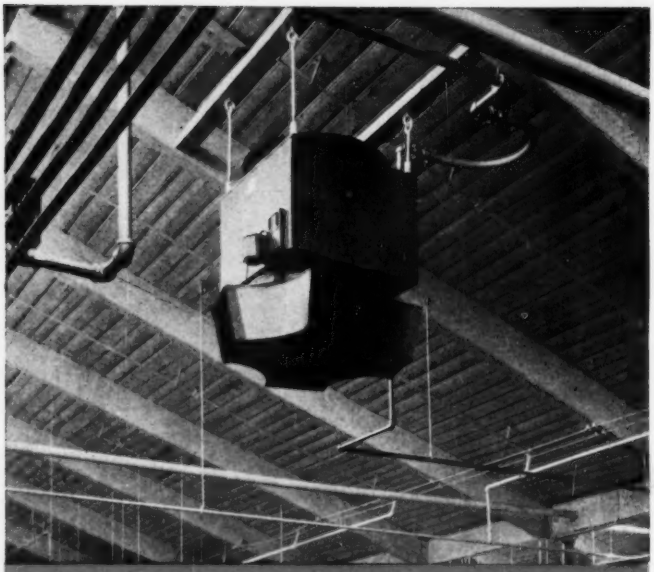
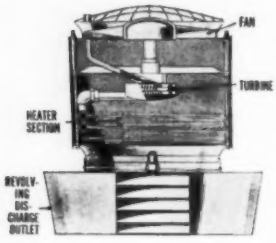


Wing Turbine Driven Heater uses exhaust from fan turbine for heating



Where live steam of any pressure is available, it is possible to heat a plant advantageously by installing Wing Turbine Revolving Unit Heaters. The fan is driven by a Wing Turbine and the turbine exhaust is piped into the heater section. Electric motor and electric power are eliminated as the source of power (steam) is also the source of heat. The revolving discharge outlet distributes the heat to the working level, flowing around obstructions and to remote corners. Workers are pleased with the sensation of fresh, live, invigorating warmth. Write for descriptive bulletin or specific details.

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Wing

Revolving UNIT HEATERS

Questions and Answers

(Continued)

many other simple, or plain, weaves. Many mills also use cam looms for weaving blankets and other heavy woolens. If you do not intend to weave fabrics with fancy patterns—such as woolen or worsted suiting for men's or women's wear—a cam loom of the proper width to accommodate your construction of cloth would be suitable.

Fancy weaves, in which fairly complicated patterns are used, will require a dobby or fancy head motion. One important advantage of a dobby or fancy head-motion loom over a cam loom is that the dobby loom will weave either plain or fancy work.

Wrinkles in Blankets May Be Caused in Finishing

Technical Editor:

Can you help us overcome wrinkles in our woolen blankets? These wrinkles usually appear warpwise in the middle of the blanket and run from 18 in. to the whole length of the cut. They are so bad that we have to make seconds of the cloth.

We use a blend of 30% garnett stock, 30% 40s, 10% 56s, and 30% 50s wool; and add 3% Syton to our emulsion.

We use a 2x2 weave, 26 picks of 1¼-run filling with 5 tpi. twist and 1¼-run warp with 6 tpi. twist. In finishing, we use the same soap, same amount of soap, and same running time in our 8-string dye kettle that we have always used. However, we run only six strings in our dye kettles. The wrinkles have been appearing only a short time.

Recently, we ran some yarn that included a 30% blend of 40s pulled wool, but the yarn was not used in the blankets. If some of this yarn got mixed with the blanket mix, would it cause wrinkles such as these described?

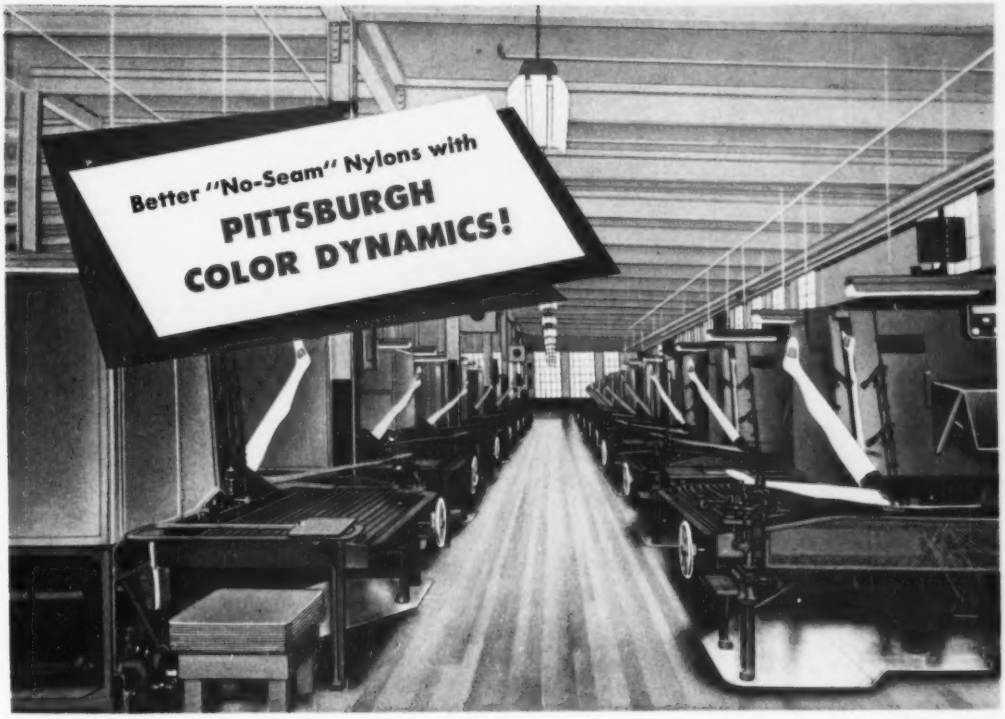
We have had this trouble before, and it cleared up by itself. However, we would like to know what causes it. (9278)

Mixed stock of a lower quality could cause wrinkles, but it is unlikely that the mixed yarn would always appear in the middle of a blanket. The washer, fulling mill, and dye kettle are the operations that are the usual offenders.

When the wrinkles run almost straight in the center of the fabric, the washer should be inspected for high and low ridges in the rolls. A soap with only enough alkali to saponify the oil used in the emulsion and not harden the stock should be used.

Fulling soap with heavy body and less alkali may help to cushion and soften the fabric.

The best method to eliminate finishing wrinkles is to try and find what machine is the offender and then try all known wrinkle preventives until the trouble is eliminated.



New, Scientific Painting System Improves Efficiency and Quality of Production at Hanes Hosiery Mills

WHETHER you build giant locomotives or fashion filmy hosiery—color properly engineered in your plant according to the principles of Pittsburgh COLOR DYNAMICS will help improve the quality of your output.

Characteristic of the benefits of this new painting system are the results in the Hanes Hosiery Mills, of Winston-Salem, N. C., whose "No-Seam" Nylons are one of America's leading brands.

"Since we painted our plant according to COLOR DYNAMICS," writes R. B. Crawford, vice-president of this company, "we have noted a definite improvement in production. Our operators now see their work better and do a better 'boarding' job. Inspection of finished goods is performed more speedily and with greater carefulness."

Actual experiences in a wide variety of industries confirm such reports of improvement in efficiency, well-being, morale and safety among workers. For the principles of COLOR DYNAMICS are based upon the natural reactions of human beings to the *energy in color.*

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You can readily test the value of Pittsburgh COLOR DYNAMICS on a machine or two in your plant—or in one department. Note the difference it makes—in efficiency and well-being of your employees and in the kind and volume of work they turn out.

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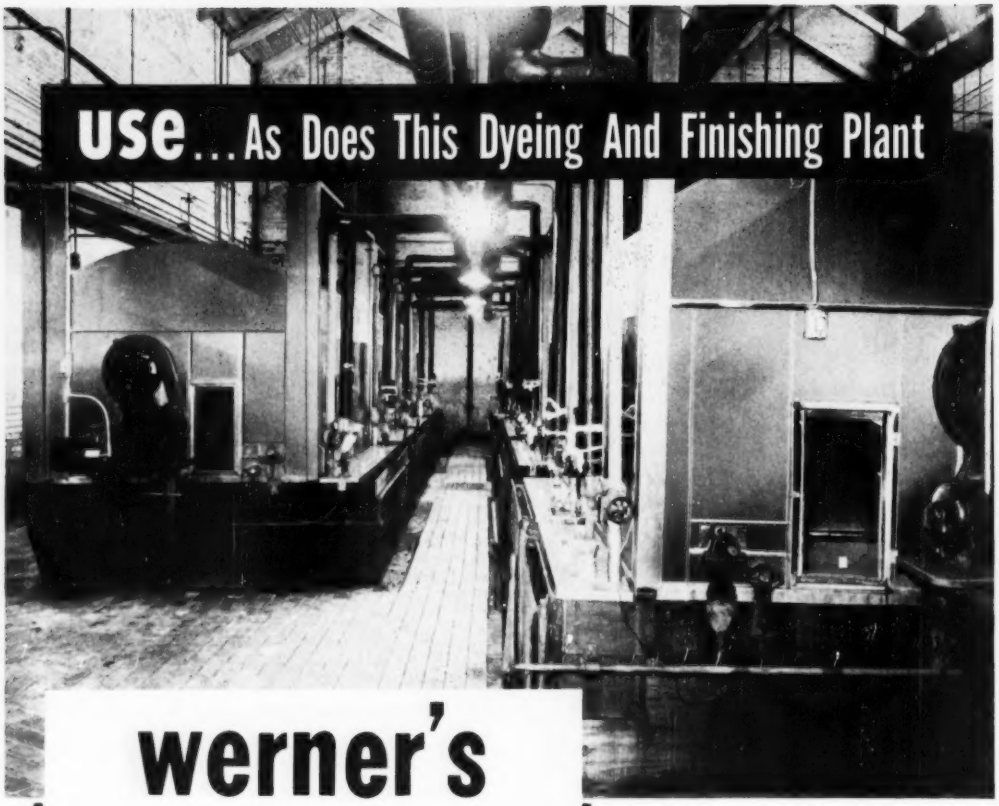

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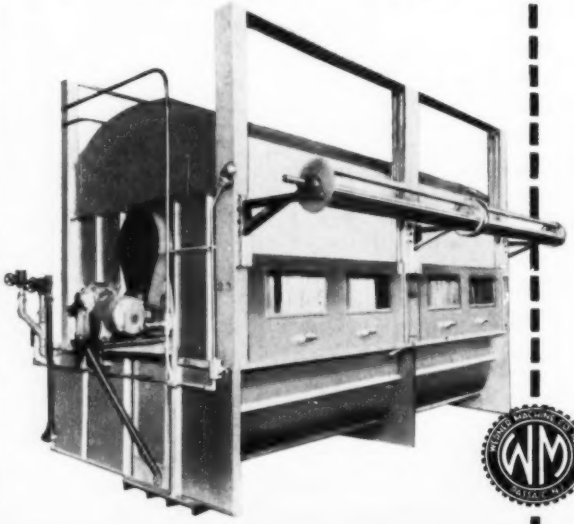
Stainless Steel Covers!



Cliffside Dyeing and Finishing Co., Paterson, N. J., compared others and then chose to install Werner Stainless Steel Covers on all their Dye Boxes.

For quality work as done by Cliffside, these Werner covers provide a substantial saving on steam costs. Also, processing time to bring many qualities to desired shade is materially shortened. Working conditions for the operators are likewise improved, as the dyehouse is free of steam vapors. These covers can be installed on any existing dye box or complete new machines with enclosures can be furnished.

We invite you to write today for full details on Werner's Stainless Steel Covers or any of Werner's line of equipment.

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PASSAIC, NEW JERSEY

Springs Bleachery

(Continued from page 107)

Engineered by Robert & Co. and built by Springs Mills, the building is constructed of red-brick tile outside and glazed tile inside. The outside trim is limestone. A distinctive feature is the South American architectural design which provides a limestone slab over each window, with limestone supports on either side of the window. The purpose of the slab is to keep direct sunlight off the windows during the middle of the day.

The color scheme of the inside walls is a cream upper wall, buff lower wall, and terra-cotta base. Above the base of all outside walls is a condensation gutter with discharge points every 15 ft.

The processing area has a concrete-slab roof, and the storage area, a wood-decking roof. The roof is insulated with 4 in. of Foamglas. The floor of the processing room is concrete with a Kalman finish. A wooden floor is used on the second floor where goods are packaged.

AIR CONDITIONING. On the ground floor is housed the processing area, machine shop, offices, laboratory, cafeteria, and first-aid room. All of these departments except the machine shop and processing area are air conditioned. The processing area is "comfort conditioned" by the J. O. Ross Engineering Corp. system. Control of atmospheric conditions is approached in three ways:

1. All machinery is hooded where radiant heat and moisture are present. Ducts from the hoods exhaust the hot, moist air through the roof.
2. Ceiling heating through a series of ducts prevents condensation.
3. Comfort conditioning of the working areas is obtained by pulling in a large volume of outside air and distributing it through ducts. In winter, this intake air is heated to desired temperature.

Storage areas, the machine shop, the packaging area, and the receiving and shipping areas are cooled by fans in the summer and heated by steam coils and fan blowers in the winter. The chemical-storage basement is well ventilated, and facilities for controlling the temperature of the stored chemicals are provided.

The basement where bulk chemicals are stored is equipped with nine storage tanks. Six 20,000-gal. tanks, made of plate steel, are used for storing caustic soda. One 20,000-gal. tank, also of plate steel, is used for sodium silicate. Two 5,000-gal. tanks, made of aluminum, are used for storing hydrogen peroxide.

A tenth storage tank, of 12,000-gal.

Special Ribbon Effects.

SPECIAL RIBBON EFFECTS are only one of many uses for the Xyno Resins. These stable aqueous dispersions of thermoplastic synthetic resins offer a wide range of new possibilities in sizing and stiffening effects from the moderate to the extreme.

THE XYNO RESINS

require no curing or high temperature setting. They contain no solvents and are compatible with alkalies, dilute acids and hard water. They do not putrefy or impose any hazards of toxicity or inflammability. No special operations or equipment are required for application.

There's Xyno Resin 362—a viscous dispersion for exceptional stiffness, especially on organdies, marquisettes and ninons. It makes an excellent back filling agent.

Also Xyno Resin 569—a water-thin dispersion for "springy" hands on fabrics and on nylons and other nettings.

And Xyno Resin AA 40—a versatile, general purpose, water-thin dispersion of especial interest to ribbon manufacturers and to finishers of cotton, rayon and acetate fabrics.

WRITE FOR
ONYX TECHNICAL BULLETIN T-2
for detailed data on the Xyno Resins and other Onyx Resin Finishes for Textiles.

ONYX OIL & CHEMICAL COMPANY
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CHEMICALS FOR TEXTILE FINISHING

With labor costs as they are, the fast, *mechanized* TENNANT System can save you more *today* than ever—besides eliminating scrubbing. Here are 5 reasons why TENNANT "dry cleaned" floors are cleaner . . . brighter . . . safer—yet *cost you less:*

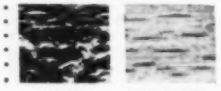
1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.



SCRUBBED DRY-CLEANED

HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean, and it breaks down rapidly under heavy traffic.

In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

Write Today! Learn how mechanized "dry cleaning" can save you money. Ask for new bulletin "HOW TO GET BETTER RESULTS IN TEXTILE FLOOR MAINTENANCE."

G. H. TENNANT CO.
2586 North Second Street
Minneapolis 11, Minnesota

The way to finer floors
TENNANT
Floor Maintenance System

ESTABLISHED 1870

OFFICES IN PRINCIPAL CITIES

capacity and lined with rubber is located immediately outside the building adjacent to the dye room. This tank is used for storage of acetic acid.

STARCH MIXING. Mixing and starch-storage tanks, of stainless steel supported by steel platforms and framework, are located on a mezzanine directly over the starch mangles in the finishing ranges. All mangles are in line across the room; and storing and mixing the starch and other finishing chemicals can be done on the mezzanine, thus avoiding a messy spot in the processing area. Chemicals are pumped through pipes from the storage tanks to the points of use in the plant.

For flexibility in heating water to the various temperatures needed in wet processing, 21 separate water-heating units are available. Those will deliver 200 gpm. at any desired temperature.

Three elevators are located in the plant: two in the upstairs packing department and one connecting the chemical-storage basement with the dyeing department on the first floor. For handling heavy packages of materials or goods, fork lift trucks are used.

A well equipped machine shop is provided with complement of machines capable of handling practically any maintenance problem that might arise. It has lathe, milling machine, drill press, shaper, band saw, pipe threader, and other necessary equipment and accessories.

Adequate floor space was provided to accommodate future expansion. The building was designed and the machinery laid out so that space is available for the installation of additional machinery of every type used. The present capacity of 3,000,000 yd. per wk. can be increased approximately 50% by the addition of machinery in the present building.

The plant was engineered from the standpoint of an ample supply of water and steam. Water is obtained from the Catawba river and treated in the plant's filter system. A power plant, which supplies all the power used by the bleachery and furnishes some of the power needed by the Springs cotton mills, also provides all the steam used by the bleachery.

WATER SYSTEM. A raw-water pumping station, located on the river, pumps water about ¾ mi. to a 10,000,000-gal. raw-water reservoir. The capacity of the four pumps is 1,500,000 gal. per hr. The raw water stored in the reservoir constitutes a 4-day supply.

Water for the power plant flows from the raw-water reservoir to the condensers to the turbine generator. From the power plant, it flows back to the river. A second pumping station at

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MAXIMUM FEED R. B.
RIB BODY
MACHINE
For
Infants, Childrens,
Boys, Ladies and
Mens Underwear
This very modern production machine with individual motor drive, free wheeling, improved large capacity take-up reel and extra feeds is the latest contribution by BRINTON to progressive underwear manufacturers. Built in sizes from 8" to 26" diameter, from 8 to 26 feeds. Plain or automatic 1x1 and 2x2, for a great variety of stitch combinations.
Write for Special Bulletin No. 808
This Trademark on your machine represents more than half a century of experience.
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CLARK

"This 80 per cent Saving GAVE OUR DRESS BUSINESS A NEW LOOK"

Dress business!—or metals, stevedoring, paper, lumber, foods, transportation, chemicals, et al—in every business it is the height of fashion to save time, cut costs, add to profits. And in every branch of industry and commerce, wide-awake management is finding that *only in the field of materials handling* are there opportunities to effect appreciable savings.

"123,000 YARDS OF DOTTED SWISS DRESS FABRIC WAS UNLOADED FROM A BOXCAR BY OUR CLARK TRUCLOADER IN ONE HOUR AND FIFTEEN MINUTES—AN OPERATION WHICH REQUIRED 8 TO 9 HOURS BY HANDLING METHODS FORMERLY USED. OUR SAVINGS TOTALED MORE THAN 80 PERCENT!"

GEORGE L. FITZGERALD, SALES MGR.
NELLY DON DRESSES
KANSAS CITY, MISSOURI

You can achieve an attractive "new look" for your own costs and profits by means of a well-engineered application of Clark's modern materials handling methods and machines. The best time to start checking on your opportunities in this direction is NOW; and the best helper you can get is a Clark field engineer. You'll find it's smart to CONSULT CLARK.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIV., CLARK EQUIPMENT COMPANY BATTLE CREEK 27, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

the river picks up the water from the sluice and pumps it to the filter plant.

Robert-type filters, capable of filtering 5,000,000 gal. of water a day, are used. Water from the filters flows into a 5,000,000-gal. reservoir. From this reservoir, it is pumped to a 500,000-gal. storage tank for use as processing water and to a 150,000-gal. tank for fire protection through a sprinkler system and fire-hose-connection system. Water for the boilers is drawn from the process supply as well as drinking water which is chlorinated.

Fire protection is afforded by a Grinnell sprinkler system which includes two 1,500 gpm. pumps in addition to gravity supply from the tank.

The power plant, also just completed, was built for the primary purpose of generating power for the bleachery and Springs mills. An important secondary purpose is the supply of exhaust steam bled from the turbine for use in processing in the bleachery.

POWER PLANT. The power plant is equipped with two Babcock & Wilcox steam-generating units, integral-furnace type, arranged with hopper bottoms for the firing of pulverized coal and oil.

The boilers are designed for 750 lb. pressure, operating at 665 lb. at the superheater outlet. Steam temperature is 750° F. at 150,000 lb. steam per hour.

In addition to a superheater, each unit is equipped with B&W economizer and tubular air heater; Diamond soot blowers; induced-and forced-draft fans by Sturtevant; complete Bailey automatic combustion control including feed-water regulator; Western Precipitator Co.'s dust collector, type 9VG12; two pulverizers, type E, B&W, for each unit and one self-supporting stack for each.

An underground tunnel (about 250 ft. long) connects the power plant with the bleachery. In the tunnel are located a 20-in. cold-processing-water line, a 24-in. low-pressure (about 50 lb.) steam line, a 10-in. intermediate-pressure (150 to 175 lb.) steam line, and a 12-in. condensate-return line. The tunnel extends under the bleachery, and rises from the steam lines and cold-water line lead to points of the processing area.

Only direct current is used on most of the processing machines. Three motor-generator rooms, containing the motor-generator sets and switch gears, are located at points of the building convenient to the machines. The main power line carries 550-volt, 3-phase, 60-cycle a.c., generated in the power plant by a 15,000-kw. Westinghouse turbine generator. Conversion from

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
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Simplify valve selection with this LUNKENHEIMER "RENEWO" THREESOME...

The "RENEWO" Threesome is fully described in Circular No. 577, which also explains the economy feature of converting one type to another by simply changing seat and disc. A copy is yours for the asking . . . from your Lunkenheimer Distributor or from us direct.

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1 "REGULAR TYPE..."

Nickel Alloy Seat and Disc
Fig. 73 200 lb. S.P.
Fig. 16 300 lb. S.P.

Regular "RENEWO": one of the most popular and widely used valves ever designed for general service. As the name clearly implies, all parts are renewable.

2 "P" TYPE...

Nickel Alloy Seat and Disc
Fig. 73-P 200 lb. S.P.
Fig. 16-P 300 lb. S.P.

"P" (Plug Type) "RENEWO": for throttling, drain, drip water column blowdown and similar service. The "NS5" Nickel Alloy 330 Brinell seating material, developed and patented by Lunkenheimer, has exceptional wearing qualities and high corrosion resistance.

3 "PS" TYPE...

Nickel Alloy Seat and Disc
Fig. 73-PS 200 lb. S.P.
Fig. 16-PS 300 lb. S.P.

"PS" (Plug Type) "RENEWO": for maximum resistance to the effects of close throttling and other severe service, particularly where abrasive conditions are encountered. Equipped with stainless steel 500 Brinell seat and disc.

a.c. to d.c. for individual drives is done in the motor-generator rooms by General Electric equipment. Operation of the machinery is on the Ward-Leonard system of adjustable d.c. voltage.

Experimental runs have been made on some of the processing equipment, but large-scale production will not get under way until the installation of machinery is nearer completion (probably toward the end of summer). When full production is reached, about 1,000 workers will be employed.

The building of the plant has taken 2½ years and work is still going on. Houses will be built for the key men on the site, and a shopping center is now under construction near by. A three-story finished- and gray-goods warehouse is under construction. This will contain approximately 100,000 sq. ft.

Incentive Plan

(*Continued from page 99*)

remaining 25% is left in the fund for the purpose outlined. Nonproductive workers are paid an equal percentage of their annual pay.

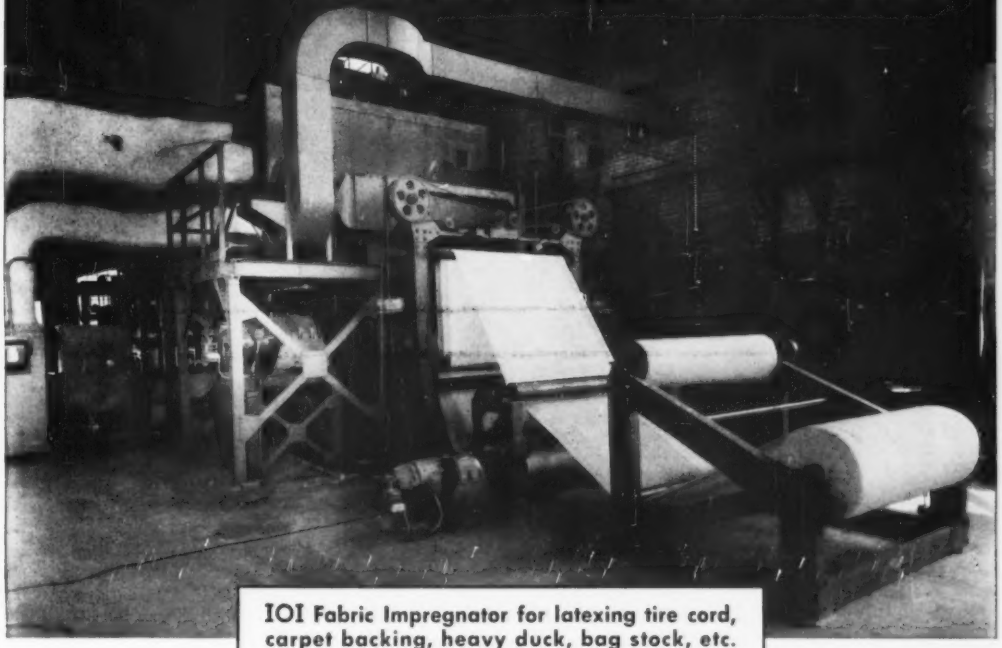
Unlike most plans, Mount Hope's has no complicated set of rates for various jobs. Quality inspection is not restricted to inspection departments, but is to the best interest of each person associated with the plan.

The decision to use only one figure has been justified in many unexpected ways, as cooperation between departments is stimulated in an effort to increase the plant output. An additional advantage of using a single figure is that paper work and checking of reports are reduced to a minimum.

Another reason for using a single figure was that many different types of cloth are processed in the plant. Rather than establish separate rates for each type of cloth, the incentive is based on the dollar value of the total billing for finishing. This eliminates yardage as a measure of production and automatically allows for difficult types of work. Experience has shown that employees in departments that are temporarily slack are more than willing to "lend a hand" to other departments as the type of work shifts. This factor allows a maximum of flexibility in maintaining steady output from the plant.

Interest in quality is no longer restricted to supervisors and inspectors. When cloth must be rehandled, the labor involved automatically increases the payroll or decreases the possible billing. Every person in the plant has a definite interest in both production and quality. It is to the interest of everyone to prevent cloth becoming

ARE YOU LOOKING FOR ECONOMY IN FABRIC IMPREGNATING?



IOI Fabric Impregnator for latexing tire cord, carpet backing, heavy duck, bag stock, etc.

To men who know modern latexing operations this unretouched photograph tells its own story —of rugged construction, huskiness of drives, efficient arrangement of all component parts.

But it is *operating economy* that makes this machine's performance truly outstanding. It processes many yards of heavy fabric per minute. Operator-attendant requirements and down time for cleaning are the very minimum. And it provides complete processing control regardless of the speed at which it is operated.

IOI Impregnators and Coaters are available in a wide variety of standard sizes ranging from 5 yd. per minute export units to 70 yd. per minute calender train units. All are characterized by

- **Sound Engineering**
- **Economical Operation**
- **Rugged Construction**
- **Maximum Investment Return**

If you want to increase your production and cut your production costs in coating or impregnating operations, it will pay you to discuss your requirements with IOI.

FABRIC COATERS AND SYSTEMS • HI-SPEED CONVECTION SLASHERS • LOOP AND FESTOON DRYERS

CAKE AND SKEIN DRYERS • CONSTANT TENSION WINDUPS AND UNWIND MACHINES

INDUSTRIAL OVENS, INC.

IOI ENGINEERING VERSATILITY

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ASSOCIATED COMPANY: JAMES DAY MACHINERY LTD., LONDON W.1, ENGLAND

DARNELL CASTERS
Enjoy the advantages of easily movable equipment, full protection of floors and the elimination of damage to equipment due to wracking - at no additional expense over ordinary casters and wheels.
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soiled or damaged as this would necessitate rehandling or lessen the billing value for the work.

Before the plan was formulated, the management realized that factors beyond control of the workers must be eliminated if the plan was to succeed. Such items as equipment installation, building repairs, and seasonal work such as snow removal or gardening, would create a drag which would prevent the incentive payments from reflecting a true return of the productive expense. Hence it was decided that the relationship of productive payroll to billing for finishing would be the most equitable basis.

From the start, the plan has proved a substantial benefit to all persons concerned. It has promoted a definite tendency toward teamwork throughout the whole plant. Interests of customer, management, and worker are identical. That the plan is popular with all persons concerned is readily apparent to anyone who has an opportunity to visit the plant and see its operation.

Wool Dyeing Faults

(*Continued from page 135*)

damage calls for bagging the piece, as described, followed by a boil in the dye vessel, using 10% sulphuric acid on the total weight of cloth. Boiling is continued for 20 min., followed by a good wash-off; and then the cloth is redyed to shade with the addition of 20% glauber salt, plus a good leveling agent.

STREAKS. Streakiness in color, such as long streaks of uneven dye places running warpwise can be traced to more than one source. The cloth may have been running too long in one fold over the dye reel. This calls for frequent "opening-out" of the piece, using a stick for the purpose. On the other hand, the cause may be that of using a bad salting or feeding dye; that is, a dye which does not level well on the material. Correction calls for judicious choice in salting dyes.

Streakiness can usually be cured by a boil-up with acid, glauber salt, and a leveling agent. The boil is reached as quickly as possible, followed by at least a 1½-hr. boil.

A big source of trouble is often that of stains, producing cloth, in the words of Shakespeare, "full of unpleasing blots and sightless stains." The character of these may vary, but the results are the same; and if the stains are not removed, loss is experienced on the ultimate sale of the cloth.

Dye or color stains are an outstanding example of this fault. These

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For Extracting
CARBONIZED WOOL
and Other Acid-Treated
Materials

TOLHURST
60" CENTER-SLUNG EXTRACTORS

Tolhurst's 60" Center-Slung Extractor assures safety, speed and convenience in extracting carbonized wool and other acid-treated materials. With a total capacity of 32.2 cubic feet, this efficient extractor easily turns out from two to four loads per hour. Rubber covered basket and rubber lined case. Safety cover is standard equipment. Automatic timer available at extra cost.

Modern textile mills find Tolhurst's 60" Center-Slung model in standard construction equally efficient in extracting piece goods, package yarn, skein yarn, raw stock, underwear tubing, wool felting, hats and rugs.

TOLHURST 40" and 48" EXTRACTORS

Two smaller Tolhurst machines are especially designed for use where acid conditions prevail. They can be constructed of bronze, stainless steel, monel, steel rubber covered or other applicable materials. Available in 40" and 48" diameters. Timer, automatic brake and safety cover are standard equipment.

FREE! NEW CATALOG

Write today for the 20-page Tolhurst Catalog, featuring all Tolhurst extractors for the textile industry. Illustrations, specifications, dimensions, floor plans.

TOLHURST CENTRIFUGALS
Division of AMERICAN MACHINE AND METALS, INC.
East Moline, Illinois
American Machine and Metals (Canada) Ltd., 1144 Weston Road, Toronto, Canada

stains can be produced by dye-solution splashes during feeding undissolved dye, colored water splashing the pieces after dyeing, or color on the operative's hands as he handles the cloth.

Preventing these occurrences calls for extra care in the dyeing operation. The use of a salting funnel and hair-sieve can assist in the matter of dye splashes and dye stains. The salting funnel can be T-shaped in inverted form, the bottom of the inverted T being perforated and inserted in the bottom of the salting box of the vessel. At the top of the inverted T is a cone-shaped funnel containing the hair-sieve, through which the dye solution is poured. The sieve collects any undissolved dye, while the inverted T-shaped salting funnel insures even spraying of dye solution into the dye liquor.

In the instance of colored water and color on the operative's hands, cleanliness and soap and water are called for. Regular washing down of the floor should take place, using clean water, while the operatives should be instructed to wash their hands before handling dyed material.

Dye and color stains can sometimes be leveled out with a fresh boil-up. But more often than not, a good strip is necessary, using a hydrosulphite and acid, followed by neutralizing with ammonia or soda, again followed by redyeing. When it is possible, the pieces can be dyed into a darker shade.

SPECK-DYEING STAIN. Another stain of the "color" type is that experienced by reason of the uneven application of nitrate of iron during speck dyeing. This procedure creates dark patches on the cloth, and to remove them calls for the removal of the speck dye.

Treatment with sulphuric acid (2 to 3% on total weight of cloth) in a dye vessel at approximately 120° F. for 20 min. is usually sufficient. This treatment is followed by a good wash and, finally, re-speck-dyeing.

Rust and iron-stains are sometimes experienced as the result of dirty shafting or pipes, occasionally from previous processing. Periodical inspection, scraping, and painting of shafting is to be recommended to prevent this fault. As a cure, a boil using 4% oxalic acid is recommended. There are other suitable assistants (such as the Irgalon BT brand of the Geigy Co) that are excellent for removing iron and rust stains.

Dirt stains are best prevented by cleanliness all round. They can be cured by washing with sulphated fatty alcohol and clean water. If this is not successful, a good soap scour is

FOR

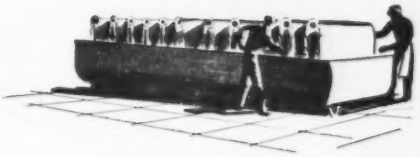
DEPENDABLE TIME

... the Naval Observatory at Washington is the *accepted standard* of the nation.

FOR

DEPENDABLE LUBRICITY

... NOPCO 1111 is the *accepted standard* of the Rayon Industry.



NOPCO* 1111

CREPE SOAKING OIL AND WARP SIZE SOFTENER

Here are some reasons why NOPCO 1111 is preferred by Rayon Throwsters and Weavers in America, Canada and other countries . . .

Unsurpassed softness and lubricity . . . controlled pebble . . . ease of removal during boil-off . . . no volatilization in drying . . . no oxidation or rancidity.

For full information write for "Important Points Regarding Rayon Warp Sizing," "NOPCO 1111—Soaking Oil for Rayon Crepe Yarns."

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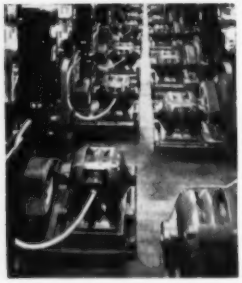
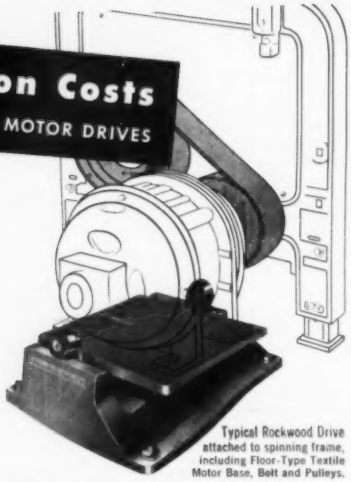
WITH ROCKWOOD PIVOTED MOTOR DRIVES

● COMPLETE FLAT-BELT DRIVE



These Rockwood Shelf-Type Bases fasten to the frame ends, as shown in Cannon Mills installation at Kanapolis, North Carolina.



Typical Rockwood Drive attached to spinning frame, including Floor-Type Textile Motor Base, Belt and Pulleys.

● COMPLETE V-BELT DRIVE

Floor-Type Rockwood Textile Drive installations in the Columbus Manufacturing Co., Columbus, Georgia.

AUTOMATICALLY MAINTAINS CORRECT BELT-TENSION *all the time*

● Rockwood Pivoted Motor Drives not only increase machine output and improve work quality, but they actually cut costs at the same time! They keep your machines running at exactly the right speed every minute . . . regardless of belt stretch or load-change. This eliminates belt slippage . . . usually doubling belt-life, saving 5 to 10% in power, and reducing motor-bearing wear to a minimum. No adjustment needed . . . no slow-downs . . . just trouble-free operation. Rockwood Pivoted Motor Drives are easily installed, and you get complete service including famous Rockwood Paper Pulleys for flat-belt drives, or Rockwood Sheaves, and Belts for V-belt drives. Write today, or call your Rockwood Distributor for additional information.

ROCKWOOD REVUE

(Presenting each month a few of the many features you'll want in your Pivoted Motor Drives. ONLY ROCKWOOD HAS THEM ALL!)

● Large pivot bearings assure long life under any type of load.

● Pivot bearings are oil-less type, providing *life-time* lubrication.

Get full details . . . Send for Catalog 748 . . . Write:

ROCKWOOD MANUFACTURING CO., INC.

Indianapolis, Indiana

ROCKWOOD PIVOTED MOTOR DRIVE

immediate delivery!

Rockwood's expanded manufacturing facilities now assure delivery immediately, or according to any delivery schedule you determine!

recommended, followed by redyeing.

A further source of trouble to the dyer is often found in carbonizing. This process involves treatment with sulphuric acid, followed by hydro-extracting and squeezing, and then "burning" or carbonizing at a high temperature in a drying machine. It is not possible to obtain even hydro-extracting or squeezing when these processes are carried out singly. Often the acid is left in an uneven state in the piece, and when left exposed over a lengthy period prior to "burning," a form of weathering tends to set in.

This weathering shows up after dyeing, both when the pieces are dyed in the acid or are neutralized prior to dyeing. It takes the form of light places fillingwise when hydro-extracting takes place; warpwise where squeeze extracting takes place.

There is, unfortunately, no sure cure for this weathering, except that of dyeing the pieces black. A boil-up with 10% sulphuric acid, followed by redyeing, or recarbonizing, followed by redyeing, sometimes acts as a cure. But neither of these is guaranteed.

Prevention is often brought about by both squeezing and hydro-extracting the pieces in the acid state. This makes for a more even distribution of the acid. But this practice, too, does not make for guaranteed evenness of color.

The best method to insure evenness of color is to dye the pieces first, carbonizing after dyeing. The cloth is dyed in the normal manner, using dyes of known good fastness to carbonizing; and it is then tentered and examined for evenness, finally being carbonized.

After carbonizing, it is not often practical to neutralize with an alkali; many shades are affected by such treatment. The best results are obtained by a good wash with running water in the washer, with no additions, except for sulphated fatty alcohol for light shades.

Let-Off Adjustment

(*Continued from page 123*)

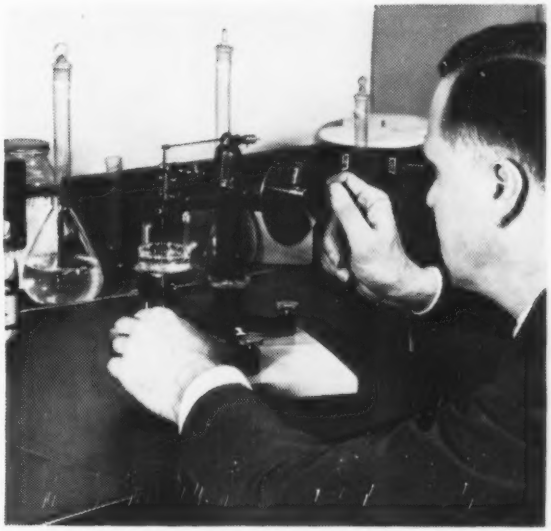
been properly made, the weight lever will remain in horizontal position.

It is important to have the whiproll parallel with the breast beam. Adjustment may be made by means of a turnbuckle on the connector.

Increasing the weights on the spindle will increase the warp tension, but it will also cause the weight arm to dip below a horizontal position. This may be corrected by turning the knob to increase the spring tension until the weight arm is again horizontal.

Fabric imperfections caused by faulty let-off motions usually give clues

Wyandotte Kreelon



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One advantage of Wyandotte Kreelon is its ability to greatly reduce the surface tension of water and aqueous solutions. The lowering of surface tension is important in many applications of this versatile synthetic organic detergent.

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to their origin. A light place running fillingwise at regular intervals equal to the circumference of the beam may be caused by the beam flange striking some part of the loom.

Lack of lubrication or a tight bearing on any moving parts of the let-off motion may cause a heavy place preceded by a light place in the fabric. This is caused by the beam holding back until the increased tension on the warp turns the beam in a jumpy manner.

One of the most common causes of uneven weaving with the automatic let-off is failure of correct braking when the brake shoe becomes oil soaked or glazed. To correct this condition is simple—replace or clean the lining on the brake shoe.

Cotton Problems

(*Continued from page 137*)

ers were discussed at length. One mill believed that 1,450 rpm. was the maximum, while the general agreement seemed to indicate that a range of 750 to 1,450 rpm. would be satisfactory for varying conditions of stock and cleanliness, etc.

CONTINUOUS STRIPPERS. Spofford Mills, Wilmington, N. C., reported increased breaking strength resulting from an installation of continuous strippers on 75 cards. Less variation and loading were also reported on 1 1/16-in. cotton. Cylinders are stripped twice a week and doffers once in 24 hr. by vacuum.

Erwin Cotton Mills used cork rolls (on three rolls) with Saco-Lowell lap drawing. The drawing frames had four rolls and were fed by laps from a sliver-lap machine. Cushion rolls of leather and synthetics were reported by other mills. Patterson Mills reported a 5 to 8% increase in yarn breaking strength as a result of mill-wide changes, of which their controlled-draft, five-roll drawing system was a part. The drawing used synthetic and metallic rolls. Durham Hosiery Mills had 24-deliveries of Medley drawing which were reported as satisfactory. Plastic trumpets for cards and drawing frames were mentioned as new devices that would aid in the control of static, but no actual experience was reported. Rosemary Mfg. Co., Roanoke Rapids, N. C., however, reported satisfactory use of an electric static eliminator but noted some difficulty in getting synthetic sliver to fall into the cans.

Pneumafil on waste spinning at Durham Hosiery Mills and on filling spinning at Erwin Mill No. 1 was also reported. A rail puller was used to stop the frames at the latter mill.

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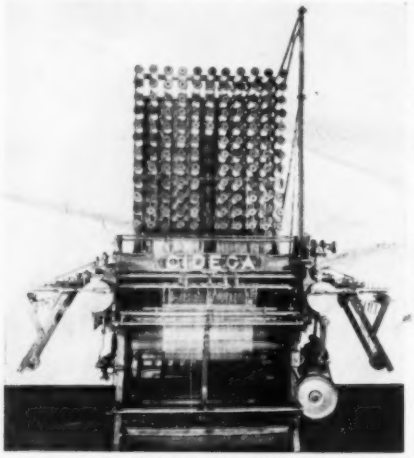

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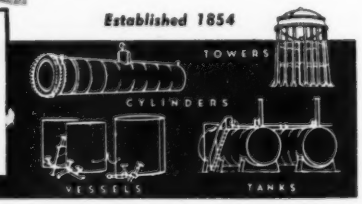

Spooler Rejects

(*Continued from page* 133)

ably safer to figure the difference in bobbin length and stroke at 1½ in. While these settings cut down yarn capacity, they greatly reduce sloughs and bobbins tangled at the top.

WIND. The merits and demerits of combination wind have been widely discussed. There are almost as many methods of building a combination-wind bobbin that will not slough as there are spinners. Following is a condensation of experience with this wind and several suggested causes of sloughing:

1. The higher the drum speed, the greater the amount of sloughing.
2. Coarser numbers slough more than the finer counts.
3. Ring-rail dwell from any source.
4. Too close a lay.
5. Soft-spun bobbins resulting from use of too light a traveler.
6. The non-sloughing cams have merit, but they are not an absolute cure-all. The majority of sloughs occur just as the yarn leaves the top of the bobbin on the down stroke, and this cam does get the running end away from the danger point more quickly.

Spinners on combination wind should eliminate ring-rail dwell, including sticky lifting rods, and should build a firm bobbin. These two conditions more any other determine the amount of sloughing.

Contrary to public belief, mills on combination wind as a rule have more tangled-yarn waste at the tailings machine than those on warp wind. In this day of 30¢ cotton and a high manufacturing cost through the spinning, waste is an item to be considered.

Most combination builders are equipped with bobbin formers; and in an effort to regain some of the yards lost at the top of the bobbin, too much is piled at the bottom. This piling results in the layers of yarn rolling over and tangling at the bottom of the bobbin. The yarn from such bobbins cannot be run off overend at either the spooler or the tailings machine.

MILL-TEST RESULTS. A mill spinning 31.5s warp yarn on 1⅞-in. rings, warp wind, had tangled-yarn waste, including stripper waste, that averaged from 1½ to 2½ lb. per 8 hr. This record was made possible by keeping close checks on the build of the bobbin, as well as on the physical condition of the builders. To be sure, some tangled bobbins were made, but the yarn was

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Calcosol Fast Yellow Printing Paste gives performance under the Fadeometer equal to that of the dyeing type. In medium and heavy shades it will stand 150 or more Fadeometer hours without color loss. Its fastness to washing, chlorine, crocking, dry cleaning, perspiration, water spotting and collafuse is excellent. It gives exceptional results in Plissé printing; and it is highly recommended for drapery printing and other applications where a fast vat yellow is important. On viscose rayon or cotton it produces rich shades; and it is a good fast yellow element when used in combinations.

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Calco Soluble Vat Brown RR has just been announced, and it is the soluble vat dye form of Calcoloid Brown RRP Paste. It can be applied by the usual plant procedure for Soluble Vat dyes and is suitable for roller printing, screen printing, cotton dyeing and wool dyeing.

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It is usually easy to dull down a bright dye to obtain a duller shade during dyeing operations, if the flatter shade is required. However, every dyer knows that if his available dyes are already dull, it is generally impossible to get that extra brightness without adding an extra dye at the expense of some of the desired fastness properties in the final result.

Calcocid Alizarine Blue SAPG and Calcocid Alizarine Blue SE are exceptionally clear, bright types of Acid Alizarine Blues. They are versatile colorants since they can be dulled in the mill where necessary — *and when you want extra brightness — they have it!*

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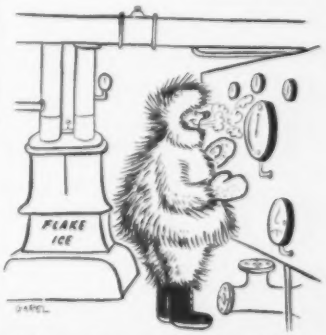
FOR THE TEXTILE BOOKSHELF

Calco Technical Bulletin No. 807—"Dyeing Studies at Elevated Temperatures" by G. L. Royer and C. L. Zimmerman, Calco Research Department, and H. J. Walter and R. D. Robinson, Bachmann Uxbridge Worsted Corporation, Uxbridge, Mass.

Following the concept of continuous dyeing at high temperatures under pressure by H. J. Walter, president of Bachmann Uxbridge Worsted Corporation, the Research Department of the Calco Chemical Division, American Cyanamid Company, began, in 1941, a cooperative investigation with the Bachmann Uxbridge Worsted Corporation on a fundamental study of the dyeing of wool and wool-cotton unions at high temperatures under pressure. This bulletin reports methods developed for dyeing textile fibers at temperatures in the range of 200° F. to 300° F.

The high temperature technique increases the speed of dyeing to such an extent that dyeing, which normally requires hours, can be produced in a matter of seconds. This increased speed of dyeing makes it practical to dye continuously at a rapid rate many fibers which previously have not been dyed by a rapid continuous process.



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salvaged from them at the tailings machine rather than cut off.

In taking tailings reports, all tangled bobbins should be classified and listed. This list may be helpful in bringing about a reduction of any classifications that are excessive.

Some mills established a policy that the spinner, the second hand, and the spinning-room section men make periodic inspections of tangled bobbins discarded at the spooler. By actually seeing what is being thrown out, they are in better position to take corrective measures at the source.

The main causes of tangled bobbins in the order of quantity are:

1. Tangled at bottom taper (especially combination wind).
2. Tangled at top taper.
3. High bobbins.
4. Doffer piece-ups.
5. Pinched or lapped ends.
6. Singlings.
7. Soft yarn.
8. Knotty or cockled yarn.

WILD YARN. The quantity of strips involved may not be serious from a waste standpoint, but they are an added source of wild yarn. Their disposal costs money. Major causes of strips, somewhat in the order of their quantity, are as follows:

1. Doffer piece-ups.
2. Failure of doffer to tie down loose tails when starting up frame.
3. High bobbins.
4. Failure of spooler girl to pinch off loose tails.

If strips due to doffer piece-ups are excessive, too many ends come down when the frame is doffed. It is just as well that these piece-ups be stopped at the snick plate, because few of them would survive long enough to weave.

It is important that all warp doffers be instructed to tie the loose tail down when starting up the frame. If this is not done, strips from most of the bobbins on that particular doff can be expected. Strips exceeding 2½% are considered on the high side.

TEST SUMMARIES. A summary has been made of average tailings from mills spinning 30s to 31.5s carded yarns. Each of these summaries covers approximately a 1,000-bobbin test. Percentages quoted are total tailings, which include bobbins returned to the spooler, sloughs, and tangled bobbins.

Mill No. 1, 30s yarn, combination wind, 1¾-in. ring, breaker-type snick plate set at 0.021—23.74% total tailings.

In contrast to Mill No. 1, the following are results from Mill No. 2 on 31.5s yarn, 1⅞-in. ring, warp wind,

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breaker-type snick plate set at 0.022—11.61% total tailings.

Mill No. 2 was referred to earlier as averaging from 1½ to 2½ lb. of tangled-yarn waste at the tailings machine in 8 hr. Incidentally, tangled bobbins discarded at the spooler will consistently average less than 1%. To be exact, the summary shows 0.86%.

Mill No. 3 on 30s yarn, warp wind, 1¼-in. ring, was operating breaker-type snick plates at 0.035 in. At this setting the total tailings averaged 10.42%. The snick plates were close to 0.028 in., and the total tailings jumped to 18.73%.

On summaries from mills spinning 30s warp yarn, the total tailings will average from 15 to 18%.

Hot-Air Slashing

(*Continued from page 103*)

stretch, loom stops, or shedding at the loom."

Yarn stretch is maintained at 1 to 1.5% in 14 of the 18 mills that answered the question on this subject. Of the other four mills, two hold stretch at 1%, one at 2%, and one at 3%. Thirteen of the 18 mills determine stretch by using two yardage counters, one at the back of the slasher and the other at the front. The difference between the yardages indicated by these two counters represents the stretch in yards. By running a set number of yards—100, 500, etc.—the percentage of stretch can be calculated.

STRETCH CONTROL. One of two methods of controlling stretch is used by most of the mills that reported. These methods are:

1. Changing the diameter of the front delivery roll by putting on or taking off cloth.

2. The use of a variable-speed drive in the side shaft at the size box.

Bucket-type and siphon-type trapping devices to remove condensate from the cylinders are both used widely. Of 13 mills that answered this question, five use buckets, seven use siphons, and one uses both. All of the mills except two use a trap for each cylinder. One of these two uses one trap for all cylinders, and the other has one trap for the front cylinder and another for the back and top cylinders combined.

No loom chafing of the yarn dried on the trap side of the cylinder has been noticed.

Cost of slasher squeeze-roll covers varies considerably from mill to mill, according to the answers received, Fig. 3.

Mill 0 wrote: "We use a wool-blanket covering on the back top roll

many of the *Best known fabrics are Spuns*

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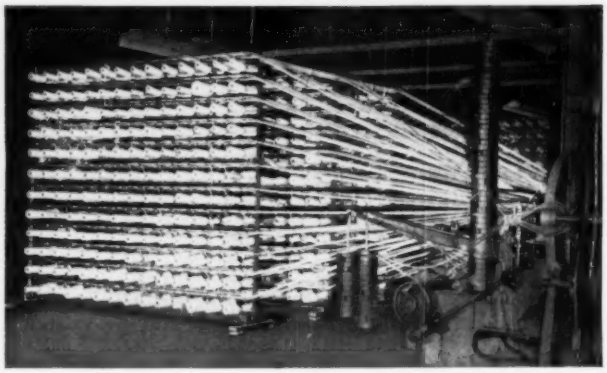

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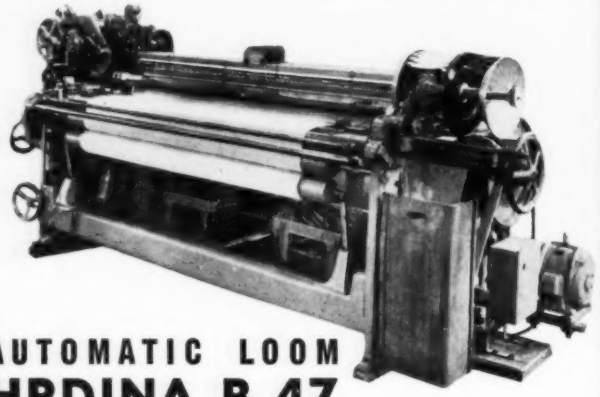

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and a yarn-wound covering on the front top roll. The squeeze-roll-covering cost per month per slasher is $29.65.

"Two strands of 3-ply 10.50s wool yarn and one strand of 3-ply 10.00s cotton yarn are wound together on the roll while the slasher is operating. A traverse mechanism winds the yarn onto the roll. This mechanism is driven by a sprocket chain off the end of the drag roll being covered.

"The yarn-wound covering is placed on the roll whenever the covering in use becomes worn or uneven. The new yarn is wound directly over the old yarn. There are flanges on each end of the roll; and whenever the space between the flanges becomes full, all the old covering is removed and a new wound covering begun.

"All squeeze rolls are raised when the slasher is not in operation. This prevents the rolls from becoming flat-sided."

WOUND-YARN COVER. Mill S wrote: "We use the wool-yarn-wound roll for the front and back rolls. The front roll (next to cylinder) weighs 750 lb. and the back roll (next to creel) weighs 650 lb. Both rolls are covered in the same manner.

"The uncovered iron roll is prepared for running by making four rounds of the traverse motion with six ends of No. 10 brown jute yarn (10 lb. of jute), 3 rounds with eight ends of No. 12 single white cotton, one round with two ends of 3/10½ white all-wool worsted yarn, and one round with two ends of 12s single white cotton.

"The roll is then ready for production. Thereafter, at starting time each morning, the rolls are covered with one round of the traverse with one end of wool yarn and one round with two ends of cotton yarn. This is done each day until the roll becomes full, which requires about 800 hr. of operating time. All the accumulation is then removed from the roll and the foregoing operation is repeated.

"The cost of the original covering (from the bare roll to being ready for production) is as follows:

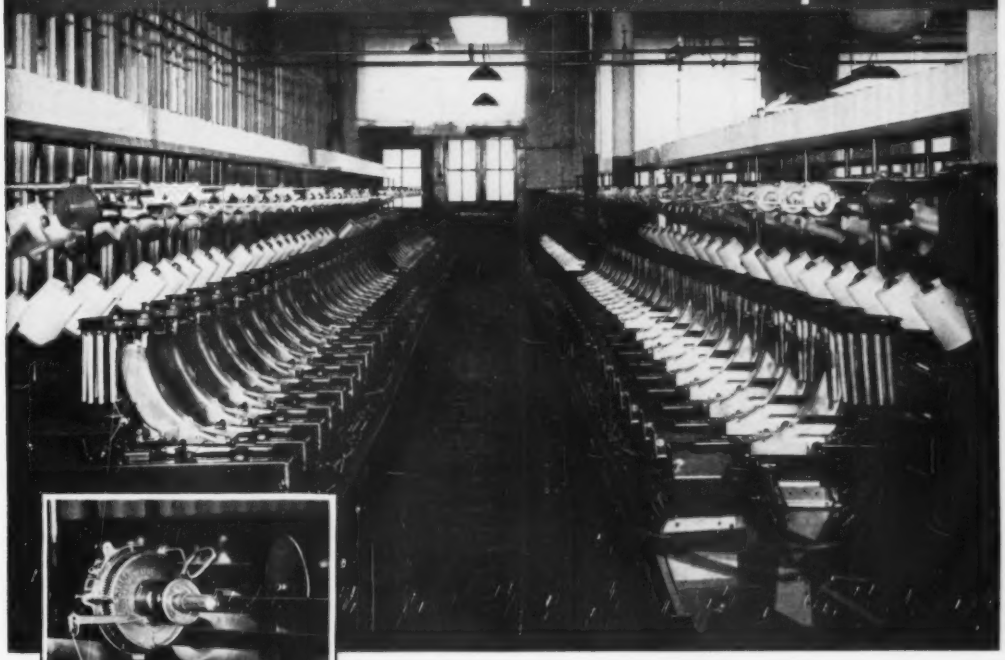
"For both rolls (one roll would be one-half of the following figures):

20 lb. of jute @ 0.37½	$7.45
3½ lb. of cotton @ 0.60	2.10
1½ lb. of wool @ 1.55	2.32
Total	$11.87.
"Cost of daily covering:	
0.3 lb. of cotton @ 0.60	.18
0.7 lb. of wool @ 1.55	1.08
Total	$1.26."

WARP LEASING. The last question asked the best method of getting a straight lease on patterns and warps tied on a stationary tying-in machine.

Mill C wrote: "Use four rods on a

UNIFORM quills from Spindle after Spindle...



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Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content . . . an advantage that instantly leaves fabrics clean with a downier feel, brighter color and whiter white.

We offer you a free sample to show you what we mean.

Easier—quicker-sudsing DRUMMOND—that's the answer to your cleaning problems.

Write today for your ample-size sample of DRUMMOND Soap—just ask for Flakes or Solid.

TEXTILE OILS AND SPECIALTIES

Standard Soap Co. of Camden

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HERE'S A *Parade* YOU WON'T WANT TO MISS...

F-158

Everybody loves a parade but here's one that's particularly interesting to YOU because it's packed with "pocket-book" appeal. It's a never-ending parade of products and services designed to help you do *your* job better, quicker and cheaper. You're in the "reviewing stand" for this parade because it comes to you in the advertising pages of every issue of this magazine. Alert manufacturers use these advertising pages to get the *news* about their products and services to *you*... quickly and effectively. To be well-informed about the latest developments in *your* industry... and to stay well-informed... *read all the ads too.*

TEXTILE WORLD

three-harness weave; on a four-harness weave use two rods. Be sure that the ends are straight on the lease. If the ends are not straight, they will cause a balk. A good lease is the most important part of a pattern lease. If any ends at all fall down, be sure that they are straightened before the machine is started up."

Mill F wrote: "On patterns, we use the standard Barber-Colman frame and brush out the yarn with a No. 1 brush. On the warp, we use a Barber-Colman lease bar covered with flannel with clamps."

Mill S wrote: "Be sure to get a good lease in the pattern when the pattern is removed from the loom. Make sure that the old pattern is thoroughly brushed and all ends are in lease and straight. Any ends that are found out of lease should be put back in lease before the pattern is tied onto the new warp. If an end is missing it should be replaced in the pattern. Before the loom beam is doffed from the slasher, the end of the warp should be fastened with gummed tape in order to hold the ends in place until the warp gets to the tying-in machine."

"Monocord"

(*Continued from page 125*)

point of commercial production has been done in the research laboratories of the industrial thread division of Belding Corticelli at Putnam, Conn., where a pilot plant is being expanded as rapidly as possible to take care of expected demand. The process is applicable to various yarns including cotton, according to Mr. Kropf. The process is called Nymonizing, and successive adaptations will be known as "Raymo" when rayon is used, "Cotmo" when cotton is used, etc.

BROAD APPLICATION. The initial use of nylon gives at once a thread of broad application, the company says, and the price will be the same as the former twisted versions of nylon thread. Because nylon gives elasticity and rot resistance, Nymo is thought valuable for shoe manufacture. Because it resists abrasion, it seems suited to use in gloves. Because it is strong for its size, it may be helpful in book binding. When it bends, said Mr. Kropf, it flattens out and offers added bearing surface at such points.

A use said to be of practical value to the textile industry itself results from its trial in sewing the lap seams on spindle tapes. These seams sewn with Nymo are said to outlast the service life of the tape.

The monocord form of yarn appears to have an interesting future since it

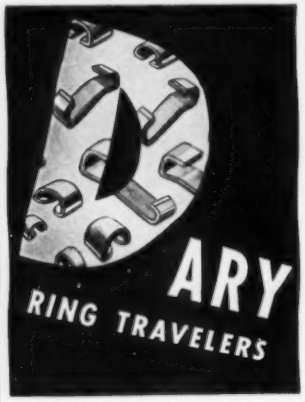
See the difference experience can make . . . Examine a stocking fabric made by Royersford Spring-Beard Needles. You'll discover why so many of America's leading manufacturers depend on Royersford Needles for higher precision in full-fashioned knitting. Royersford Needles are absolutely uniform because they are made by the most modern manufacturing facilities, developed from the experience of three generations of master craftsmen. And after all, it's the needles that knit the stocking.

ROYERSFORD NEEDLE WORKS, INC., Royersford, Pa.
Makers of a complete line of Full-Fashioned specialties.

Hands of experience

Royersford

—the Master Needle Maker



Ring-Leaders For '49!

Right at the start use the travelers with built-in superiority! Use the travelers that come in the familiar blue tin . . . use Dary Ring Travelers!

Made for every spinning and twisting assignment for use with any type or count yarn.

Be certain of consistent uniformity and wearability at high spindle speeds—

Use Dary in 1949!

The DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

John E. Humphries, Box 843, Greenville, S. C.
John H. O'Neill, Box 720, Atlanta, Ga.
James H. Carver, R. F. D. 2, Shelby, N. C.

lies in an area between filamentous yarns and monofilaments, sharing characteristics with each of these two classes. There are still unexplored fields in weaving, knitting, etc. where the invention may have application. Manufacturing details have not been disclosed by the company, but it is understood that the essential steps are to be covered by patents.

Cloth Handling

(Continued from page 101)

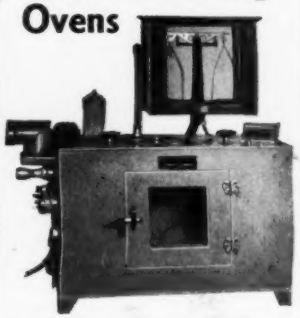
Equipment used at the three mills includes fork truck, metal apron conveyors, gravity conveyors, and a 4,300-ft. chain-trolley conveyor. Fabrics carried by this equipment include cotton print cloths, fancy rayon fabrics, woolen blankets, and automobile cloths.

FORK TRUCK HANDLES CLOTH. The 2,600-loom weaving departments of Woodside Cotton Mills, Greenville, S. C., produce about 1,000,000 lb. of cotton fabrics each week. To obtain manpower needed on other jobs, the mill installed the electric-fork-truck system of hauling cloth from the weave rooms to the cloth rooms. Cloth doffers collect the rolls of cloth on a special pallet made by the mill. A central alley through the weave rooms permits the use of the 1½-ton fork truck. The truck maneuvers through the weave rooms easily, according to the mill management; and its use permits one man to do in something less than one shift what several men did on three shifts by the hand-truck method. The fork truck collects a pallet load, transports it to the cloth room, disposes of the load, returns empty pallets and tubes to the weave room. Truck batteries are recharged daily. Accidents marred the old system; no accidents have been reported from the truck system.

CONVEYOR SPEEDS CLOTH-ROOM HANDLING. At another large Southern mill, a 55-ft. metal-plate apron conveyor speeds the handling of fancy rayon cloth from the graders in the cloth room to the baling and storage operations. Moving approximately 25 ft. per min., the 27-in.-wide conveyor carries heavy bolts of cloth from ten grading tables to a pickup point near the storage and baling operations. The conveyor is endless, but stops when a bolt of cloth interrupts the beam of an electric-eye control at the pickup point. The electric eye permits the pickup man to collect and sort cloth on trucks for baling. One pickup operator was saved by the conveyor.

The aluminum-plate apron is driven

Textile Testing Ovens



For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼", both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work.

Write for details on EMERSON OVENS to fit your process.

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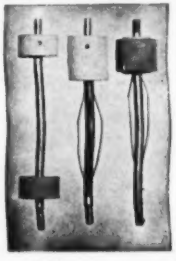

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Hard fibre tips for all types of spindles —require no oiling—renewable at little cost. Use them for cleaner yarn and better wound bobbins. Write for sample of these and other Wayne money-saving textile machine parts and supplies.

Spindles of all types. Wood head, steel head, cork covered heads and hardened steel top tip spindles. Let us send you a sample of the type you prefer. Save money by buying from Wayne.

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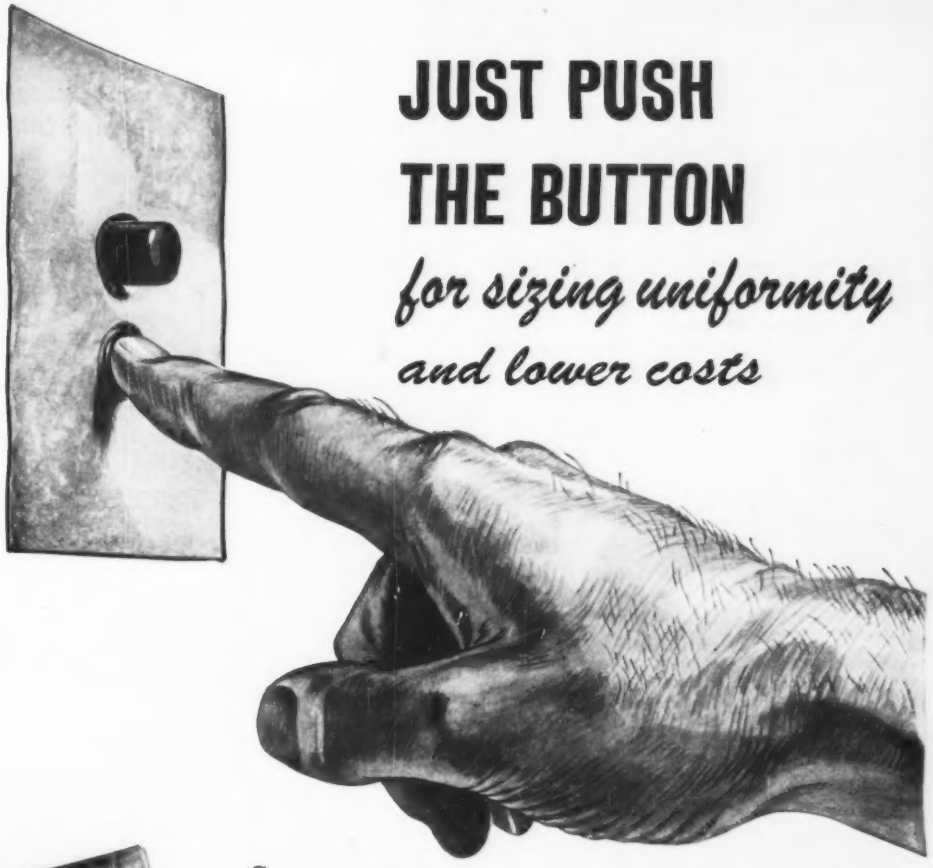
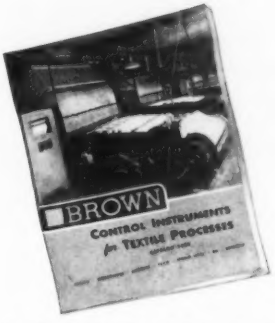
JUST PUSH THE BUTTON

for sizing uniformity and lower costs





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Catalog 9305 contains detailed information on the Brown *Elapsed-Time* System of size cookings and storage...send for your copy today!

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TEXTILE WORLD

330 West 42nd Street

New York 18, N.Y., U.S.A.

by a sprocket and motor unit at the end of the conveyor. Oilless bearings are installed in underside rollers that receive the drive from the sprocket wheel.

Long life is reported to be a feature of the installation. Other advantages: handling of cloth bolts by female operators is greatly facilitated; grading tables are combined into a convenient work unit.

CHATHAM EXTENDS TROLLEY CONVEYORS. One of the longest chain-trolley conveyors in the industry is being made longer by Chatham Mfg. Co., Elkin, N. C. to connect new warehouses with existing structures. The conveyor now joins cloth-room-storage areas with packing, shipping, warehousing, and railroad siding. Its almost mile-long length is a timetable of Chatham's production and shipping.

For boxes or for cartons of blankets, it has 430 carriers spaced at 10-ft. intervals. Subject to controls at various conveniently located points, the carriers circulate endlessly at about 40 ft. per min. They cross from mill to warehouse, and from warehouse to warehouse, and then to siding and back to mill through special covered bridges.

Regular traction drives powered by electric motors pull the chain conveyor on its trip around the Chatham mills. Blanket boxes or cartons are placed on the carriers in the cloth-room storage department. On the floor below, in the packing department, these boxes are removed to packing tables where girls assemble and pack the orders. Cartons are moved over a special gravity roller conveyor through shipping-preparation stage. After banding, they are placed again on the trolley-conveyor carriers which transport them to warehouse or to the railroad siding. Since the conveyor circles back to the mill, Chatham obtains double duty from the installation.

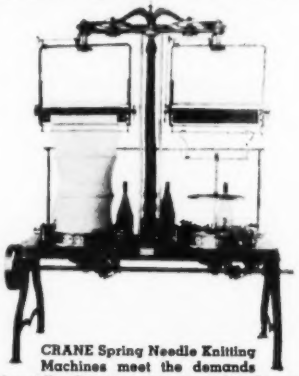
Blankets or any other materials may be sent to the warehouse for temporary storage, subject to recall from the packing department for final assortment of colors and grades. For this operation, blankets are simply reloaded upon the conveyor carriers and transported to the packing department.

Use of the trolley conveyor not only eliminates fatiguing hand trucking, but also permits a close control of all operations from the cloth room to shipping. Orders are said to be more easily scheduled and shipped. Temporary storage of goods within the department is cut to the minimum. Traffic conditions are said to be improved in a department that has considerable handling to perform.

1870 CRANE 1949

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

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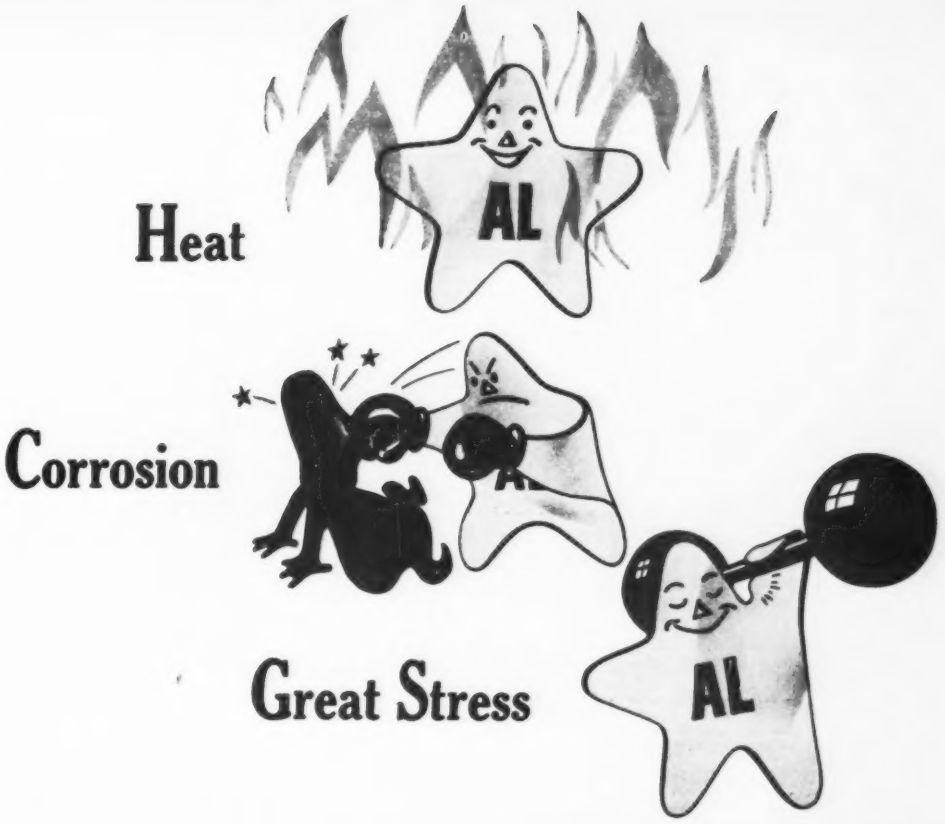

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A lifetime servant that can stand up to your job—practically under *any* conditions of heat, corrosion and wear—that's what you get when you specify Allegheny Metal. Great strength and resistance to chemical or atmospheric corrosion . . . rugged ability to take a beating . . . bright, shining beauty and endless ease of cleaning . . . they're all yours with this time-tested stainless steel.

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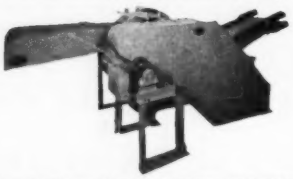

Turn hard-wound wool strippings and stringy waste into useable fibre by cutting the easy economical way and then garnet it.

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give fast low cost production with a minimum of maintenance. Built for long wear under all conditions of use.

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NO SLOT NEEDED WITH THE AMAZING WILGRIP NON-SLIP FINISH

Now In Standard Use in Many Mills

1340 E. 222nd St. Euclid 17, Ohio

Textile Equipment News

(Continued from page 154)

The units may be mounted individually by supporting chains or conduits. The units may also be mounted together, end to end, side by side, or both, so that the whole ceiling may be made into one Examolite.

The Examolite is constructed of 18-gage cold-rolled steel. The exterior of the unit is painted wrinkle gray; the interior or reflecting surface is baked white polymerin, insuring high-reflectance efficiency. To diffuse the illumination properly and to insure a proper brightness, sandblasted Crystalex glass is placed in the bottom of the light. This glass is in two pieces and is supported by angle irons; readily removable for easy cleaning and replacement of lamps.

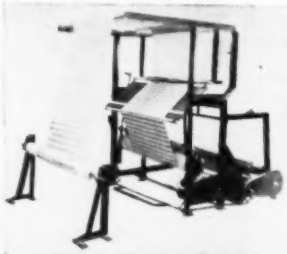
Examining Machine Cuts Operator Fatigue

Eye strain and physical exertion of cloth inspectors are said to be minimized by a new examining machine developed by Hermas Machine Co., Hawthorne, N. J.

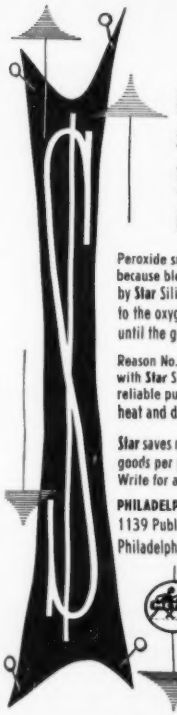
The new machine provides a surface-wind take-up unit which allows a constant speed of cloth travel, usually 50 yd. per min., whether the take-up roll is 4 or 24 in. in diameter.

To eliminate time loss and operator fatigue in handling single pieces, the machine is arranged for continuous operation, taking large rolls of cloth, just as they come from the shear, running them completely through the examining machine, then removing the unbroken rolls of examined cloth to a high-speed rolling machine for separation of pieces—work that can be performed by unskilled help.

The result is that, with this machine, the essential examining work is done by an alert operator, freed from eyestrain and exhausting handling of the cloth, eliminating stops



ROLLS OF CLOTH directly from the shear may be handled on this examining machine.



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Reason No. 2 for bleach savings with Star Silicate—reliable purity makes it stable to heat and dilution.

Star saves money by bleaching more goods per pound of peroxide. Write for a sample today.

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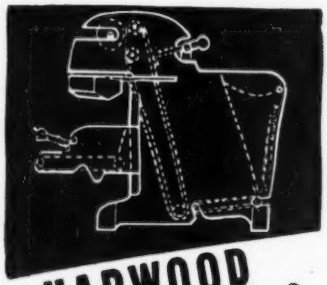

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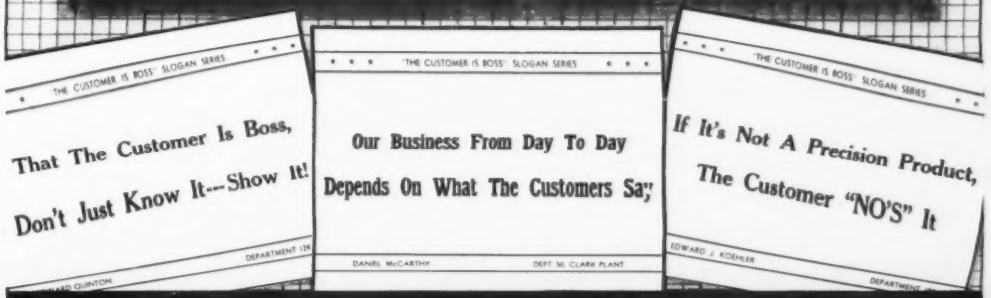
With this spirit prevailing, it is natural that every Hyatt man and woman is imbued with a desire to make Hyatt Roller Bearings precisely accurate, dependable and long-lasting.

Hyatt has a long and unequalled experience as specialists in roller bearings. Our design engineers, laboratory technicians, backed by modern machines, manned by skilled operators, show the way in serving old and new Hyatt friends.

You just can't stay in business as long as Hyatt has without always looking ahead and giving workers the highest quality materials and the most modern equipment with which to produce the finest grade of roller bearings.

Our objective for 1949, as always, is your complete satisfaction with Hyatt bearings and service. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey; Chicago; Detroit; Pittsburgh; and Oakland, California.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If It's Not A Precision Product,
The Customer "NO'S" It
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HYATT ROLLER BEARINGS

Textile Power

must be . . . .

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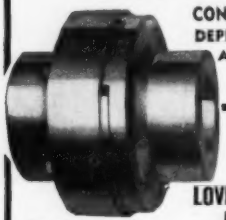

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for ripping seams and disposing of the single pieces.

The new examining machine comes with variations of cloth travel.

New Woolen Card Now Available

The new woolen card made by Duesberg-Bosson of America, Inc., Fitchburg, Mass., is now available, the company has announced. [TW, July '48, p. 104]. Cards with two, three, or four cylinders are offered. Cylinder diameter is 55½ in.; doffer, 50-in. diameter; workers are of large diameter.

Special features of the card include a sensitive feed with a device which prevents overflow of stock into the pan. The manufacturer reports that on a recent mill run, 71,000 lb. of 5-run stock passed through the feeder, and variation was kept within close tolerance.

The intermediate feed is of a new-type design which does not condense the web lengthwise. Instead, the web, after leaving the Peralta, is laid full-width on a feed table and is layed in overlapping layers on an apron moving crosswise to the length of the card. The number of doublings obtained is said to range from 16 to 21. Three or four additional doublings occur on the feed table of the finisher section. Total doublings entering the finisher feed roll vary from 80 to 100. The new intermediate is said to enhance product uniformity and to increase production with waste and fly held to a minimum.

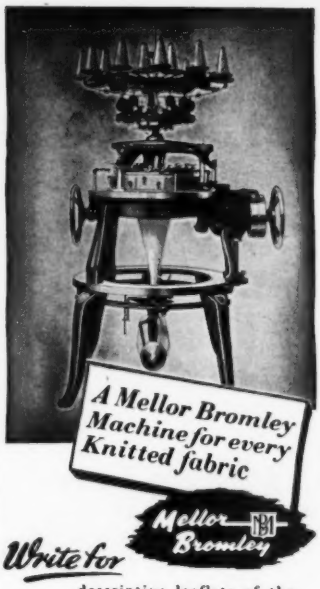
The condenser is of the single-apron type. Number of good ends which can be obtained is said to be 88 to 176.

The card is adaptable to all fibers and fiber lengths.

A safety device on the feed rolls to the lickerin will stop the feed rolls and feeder in case metal or other foreign matter calls for increased power.

Neutralizer Bar Eliminates Static

The Oxy Neutralizer, a static-eliminating device which can be used on textile machinery, has been developed by Herbert Products, Inc., 74-32 Jamaica Ave., Woodhaven 21, N. Y. The device consists of a transformer which may be plugged into any 110-v., 60-cycle conventional outlet; cables; and a neutralizer bar. Shocks to operators are said to be impossible. Materials of high dielectric properties are said to make the unit safe from shock, short circuit, and electrical leaks. Rugged design, no moving parts, no



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"See our exhibit, Third National Materials Handling Exposition, Philadelphia, January 10-14, Booth Nos. 432-3-4, 502-3-4

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Aluminum Alloy

"UP-RIGHT" SCAFFOLDS

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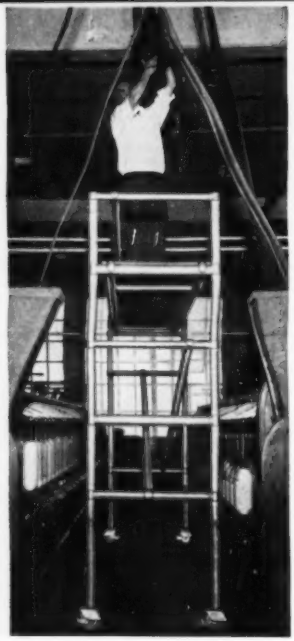

Cut maintenance costs on lighting fixtures, walls, ceilings, overhead machinery and piping, ventilating and heating installations. Instantly adjustable to desired working level. Bridges obstacles up to 6½ feet in height. Stronger than structural steel yet one-third the weight. No wrenches, wing nuts, bolts, loose parts.

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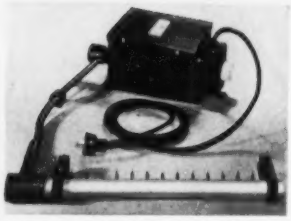


STATIC IS ELIMINATED by installation of this neutralizer bar on textile machinery.

porcelain, and no complicated assemblies eliminate breakdowns, it is claimed. Emitter points are designed to reduce the necessity of cleaning to a minimum. The bar may be mounted above or below the stock. The manufacturer claims that neutralized stock remains neutral six times longer than with previous eliminators.

DYES & CHEMICALS

Dye Stripped From Nylon Effectively

Nylon stripping with almost complete dye removal is reported to be accomplished essentially without damage to the nylon fiber through the use of Textone, a sodium-chlorite product developed by Mathieson Chemical Corp., 60 E. 42nd St., New York 17, N. Y. The new process may also be used for partial stripping. In either case, it is claimed that the chlorite exhibits its characteristic ability to attack color bodies with a minimum degradation of the fiber.

The procedure uses ordinary processing equipment, is faster, and gives more uniform results than other stripping methods, it is reported. For partial stripping, the goods are treated in a bath containing sodium chlorite and a detergent, to which formic acid is added. After a total of 30 min. in the stripping bath, the goods are rinsed and are then ready for redyeing.

For complete stripping, the goods are first treated in a bath containing acetic acid and synthetic detergent, to which zinc formaldehyde sulphoxylate is added. After rinsing, the goods are stripped in a sodium-chlorite bath.

Sodium chlorite has been in use for several years as a stripping agent for other textiles. Its introduction to the nylon field, according to Mathieson, promises to the nylon dyer an easy and safe solution to the problem of reprocessing off-shade dyeings.

New Agent Is Highly Versatile

Sequestrene, a new product described as a water softener, a non-hydrolyzable organic counterpart of the polyphosphates, and a water-soluble ion-exchanger, has been developed by Alrose Chemical Co., Providence, R. I.

Because of its ability to bind calcium, magnesium, iron, copper, zinc, and many other metals in a soluble but non-ionized form which is stable over a wide range of pH and temperature, Sequestrene has a wide range of uses. Some of these are: solubilizing and dispersing many types of dyes and pigments; preventing shade changes in dyeings as the result of trace metals such as copper and iron (examples: Mordant Blue B, Benzo Fast Yellow 5GL); preventing spotting and reduced color yield with acetate colors; preventing livering of printing pastes; retarding rancidity in tallow softeners; stripping of after-chromed, after-coppered dyeings; stabilizing peroxide baths; preventing harshening of fabrics scoured with silicates; clarifying sulphonated oils, liquid soaps; stabilizing rubber latices for impregnation purposes, etc.

Chemical Prevents Linen Mildew

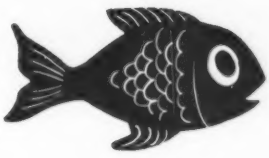
A process which locks an effective mildew-preventing chemical into linens has been developed by Monsanto Chemical Co., St. Louis 4, Mo.

The new process, a modification of an old method for fireproofing textiles, is said to treat 300 lb. of fabric for a few cents.

Basis of the treatment is a concentrated solution of sodium pentachlorophenate, a water-soluble fungicide sold under the trade name Santobrite. The treating bath is prepared by adding 8 oz. of an approximately 30% solution of the chemical to about 40 gal. of water in a standard washer. Cloth to be treated is rinsed in this solution for five minutes.

The action of the scouring rinse which follows is important. The slight acidity of the scouring rinse converts the water-soluble chemical in the fibers into a fixed mildew inhibitor. It will remain in the fabric until rewashed, when the high alkalinity of the initial sudsing operation redissolves the chemical.

See any profit through "fish eyes"?



Not if you're knitting nylon hosiery. This peculiar type of spoilage is becoming an increasing source of headaches in scores of mills. The time and labor it takes to repair the damage eat into profits.

Alert mills have found a way to lessen "fish eyes" with Carrier Air Conditioning. The chief cause lies in an excess of sizing, caused by improper humidity and temperature in the sizing room. But the good qualities of good sizing must be maintained by air conditioning the knitting room.

Throwsters have discovered, too, that air conditioning the sizing room is not enough. The yarn to be sized must come from an air-conditioned twisting room, and ideal temperature and humidity must be maintained while the yarn is being coned.

Reduction of "fish eyes" is only one of many ways in which air conditioning boosts production and quality in the textile industry. In mill after mill—even in the dye house—it has improved the quality of goods and the efficiency of employees.

Design of textile-mill air conditioning takes sound experience and thorough knowledge of the industry's problems. Carrier engineers for years have worked closely with every phase of the textile field. This intimate knowledge is your assurance of better air conditioning. Carrier Corporation, Syracuse, N.Y.

Carrier AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

LAGS—CYLINDERS
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Large stock on hand furnished to your requirements!

Crabb Pins and Lags are better and stronger today than ever. They're produced by micromax heat-treating equipment to assure you any degree of hardness, with complete uniformity. New polishing methods give an extra high polish to the pins.

Our Cylinders, Combs, and Hackles will meet requirements in every way.

Large quantities of these Crabb products are always on hand, orders quickly filled.

Let us help you solve your problems with these products. We invite you to consult our technical staff without delay . . . no obligation for consulting. Write today.

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301 Third Ave.
Newark, N. J.

Useful Accessories FOR TEXTILE MILLS

Compressor Control with Solenoid Valve

A direct-operated solenoid valve for use with their compressor control has been developed by Johnson Corp., Three Rivers, Mich. The unit is now said to provide everything necessary for complete automatic control of the water supply to water-cooled compressors. The valve handles temperatures up to 400° F. and in some sizes will operate under differential pressures of 150 lb. The control can also be furnished for use with unloading compressors and in all cases protects the compressor against operating without cooling water.

Non-Electric Rotary Magnet

New loading and release principles feature a line of non-electric rotary magnets now being produced by Multifinish Mfg. Co., 2114 Monroe Ave., Detroit 7, Mich. Alnico permanent magnets are sealed in a metal tube mounted rigidly between Neoprene wheels in the carrying frame. The unit is pushed along the surface to be cleaned, and unloading is accomplished by sliding a wiper ring to a non-magnetic area at one end where the load drops off. Length of the smallest model is 9½ in. with larger units to 22½ in. Standard wheel diameter is 2½ in.

Abrasive Floor Covering

A safety floor finish which is applied like paint has been announced by the Watson-Standard Co., 225 Galveston Ave., Pittsburgh 30, Pa. Called Traffic-Tred, the coating dries to a hard, rough surface with a texture much like coarse sandpaper. It is said to work equally well on steel, wood, or concrete to remove most of the danger from walking areas subject to dampness, greasiness, or other slippery conditions.

Improved Stencil Ink

A formula which provides greater covering qualities for all colors of Brit-Mark stencil ink has been developed by Diagraph-Bradley Industries, Inc., 3755 Forest Park Blvd., St. Louis 8, Mo. Available in seven colors, the ink is primarily for metal, glass, cellophane, or other non-porous surfaces, but it is said to work equally well on corrugated cartons or wooden crates. Greater weather durability and imperviousness to gasoline or lubricating oils are also claimed.

Power-Driven Dumb Waiter

A fully automatic, power-driven dumb waiter with capacities up to 500 lb. and lifting speeds up to 40 ft. per min. has been developed by Sage Equipment Co., 30 Essex St., Buffalo 13, N. Y. Available with full "call" and "send" automatic push-button control stations, the models are driven by a wire-rope drive through a gear-head motor. The standard model is 3x3x4 ft. and has a 12-ft. lift which may be extended.

Screwdriver with Reversible Blade

A screwdriver which accommodates both the Phillips and the regular screw by merely reversing the blade has been developed by Vaco Products Co., 317 East Ontario St., Chicago 11, Ill. The blade is easily and quickly reversed, and a positive spring-action clutch in the center of the plastic handle holds the blade securely. The screwdriver is available in two sizes—No. 1 Phillips point with $\frac{5}{16}$-in. regular, and No. 2 Phillips point with ¼-in. regular.

Small Steam Trap

A small, low-cost steam trap for efficient drainage of drying cans, drum dryers, tracer lines, and the like has been introduced by Clark Mfg. Co., Cleveland, Ohio. The trap is furnished with various seat orifices for working pressures up to 150 psi. and temperatures up to 375° F. Horizontal or vertical connections at either inlet, outlet, or in combination are possible.

Multiple-Horsepower Couplings

A new line of multiple-horsepower couplings from 2 to 100 hp. at 1,750 rpm. has been introduced by Lord Mfg. Co., Erie, Pa. The complete line is now available in 17 sizes from 1/50 hp. to 100 hp. at 1,750 rpm. High torsional deflection is featured to give vibration isolation. No lubrication is required for there are no bearing surfaces to chafe.

Silicon-Bronze Electrode

A silicon-bronze electrode for the welding of silicon-bronze base metal and of copper and for joining galvanized iron and silicon-bronze to steel has been announced by Air Reduction Sales Co., 60 East 42nd St., New York 17, N. Y. Low spatter loss, free flow, easy slag removal, and smooth deposits are listed as advantages of the electrode. It is available in five diameters ranging from $\frac{3}{32}$ to ¼ in. and varying in length from 11 to 18 in.

Vibration-Controlling Mount

A new "Char-L-Mount" for small and medium-weight machines has been developed by Lord Mfg. Co., Erie Pa. Designed to be slid under the machine to be mounted, the device is 1¼ in. high and contains a heavy cushion of soft rubber. A deflection of ¼ in. enables the mounting to isolate frequencies as low as 600 c.p.m. in addition to all higher frequencies, according to the manufacturer.

Direct-Operated Solenoid Valve

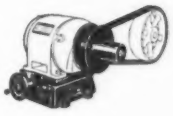
A newly engineered, direct-operated solenoid valve which needs no pilot or other medium for operation has been developed by Airmatic Valve, Inc., Cleveland, Ohio. Designed to operate on a.c. or d.c. voltage and with oil, water, steam, air or Freon, the valve has corrosion-resistant internal parts and a leakproof seal. Effective orifice area is equal to the pipe line.

"No, no, Bascom! Just a screwdriver!
This machine is Reeves-equipped!"

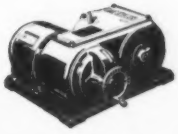
THE 3 BASIC REEVES UNITS

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.

VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.



MOTODRIVE combines motor, speed varying mechanism and reduction gears in single unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 20 hp.



Maintenance of machines equipped with REEVES Speed Control requires no special tools—no special training. REEVES units incorporate an operating principle proved in more than 260,000 installations. Simplicity of design and rugged construction throughout, with all working parts easily accessible, assure low-cost, trouble-free service. And on the job, REEVES Variable Speed Drives give you smooth, instant speed changes—provide *exactly* the right speed for every job under every changing condition. Result: increased production . . . improved, uniform quality . . . lower production costs. Install REEVES Speed Control on machines now in service—specify "REEVES-equipped" whenever you buy new machines.

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Recognized Leader in the Specialized Field of Speed Control Engineering

ACCURATE • VARIABLE
Reeves Speed Control
GIVES THE RIGHT SPEED FOR EVERY JOB!

WOUND-FORM DYEING of All SYNTHETIC YARNS

Viscose, Acetate, Nylon Yarns taken from cones or tubes direct to Atlantic dyetubes.

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Dyers and Converters of Synthetic Yarns for All Industries

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★

Books of Interest

An Addition to the Literature on Dyes

THE CHEMICAL TECHNOLOGY OF DYEING AND PRINTING, by Louis Disereus (translated from the German by H. P. Baumann and Paul Wengraf); Reinhold Publishing Corp., 330 W. 42nd St., New York 18, N. Y.; 500 pages, $11.00.

The rapid development of the dyestuff industry in Europe just prior to the war stimulated the original production of this book. It has gone through three printings on the Continent and has been revised for the American audience by the translators. Its content is aimed at the mill's chemist-colorist and it presents methods, formulas, etc. for all stages of dyeing and printing. Units in most of the formulas are metric. The book is divided into five major sections covering each of the following major classes: vat dyestuffs, sulphur dyestuffs, indigosols, insoluble azo dyestuffs, and mordant dyestuffs. There are numerous tables of practical value which list the various dyes and dyeing auxiliaries. The book should be useful in the mill, the laboratory, and the textile school.

Complete Data on Packaging

MODERN PACKAGING ENCYCLOPEDIA; Packaging Catalog Corp., 122 E. 42nd St., New York 17, N. Y.; 996 pages.

This 8½x11½-in. volume of almost 1,000 pages appears to carry between its two covers all that needs to be known on packaging materials, methods, designs, and applications. The extensive editorial content giving facts and know-how on packaging is supplemented by advertising pages and a complete buyer's guide which answer questions as to sources of supply for materials, machines, and services. Five fold-in charts give detailed tabulation of properties of packaging materials of the following classes: packaging papers, packaging films, metal foils and foil laminations, plastics for all packaging applications, and specifically molded and cast plastics. The volume is well indexed by industries served as well as by subject and title. The textile industry is represented by 14 major mentions in the text and by 19 references in illustrations.

Cotton-Yarn Calculations For the Student

YARN AND OTHER CALCULATIONS, by N. G. Devadhar; N. G. Devadhar, Bhide Colony, Sholapur, Indian Dominion; 128 pages, 3 rupees.

This is a handy, pocket-size book prepared primarily for the student or the mill apprentice. It starts with a working analysis of the basis for the cotton-yarn count and moves on through twisting, plying, and warping to considerations related to cloth, such as ends, picks, contraction, yarn diameter, loom efficiency, etc. The book closes with a group of problems as exercises for students and several useful conversion tables.

One Hundred Years of Scissors and Shears

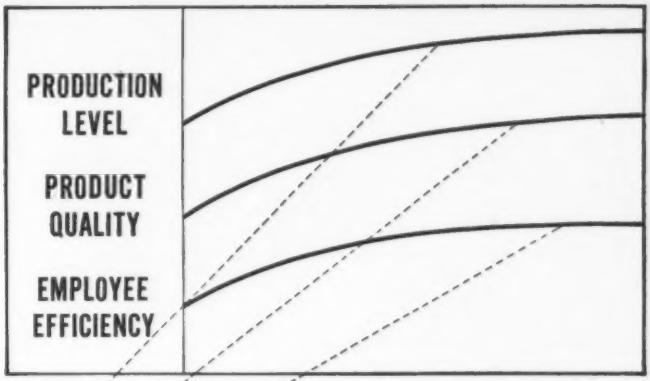
A STORY OF SHEARS AND SCISSORS: J. Wiss & Sons Co., Newark, N. J.; 36 pages.

Commemorating the founding of its business 100 years ago, J. Wiss & Sons Co. is publishing the first book in the English language, according to known sources, concerned exclusively with the history and development of shears and scissors. It contains some 40 illustrations of two-bladed cutting implements dating from the Third Century B.C. to the present. The first known pair of shears originated around 300 B.C., according to the archaeologist, Sir Flinders Petri, and was the invention of Roman shepherds of that period. It is, however, probably safe to surmise, says the book, that shears are the product of several cultures and of a heritage as old as the use of metals. Shears are identified with Greek myths, and Atropos, the "inflexible" member of the three "Fates" is early illustrated snipping the thread of life with her shears.

Application Data on Naphthols

NAPHTHOLS AND THEIR APPLICATION; General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. 48 pages.

This practical manual covers preparation of material, naphtholating, intermediate treatment, developing, and after-treatment. Details of dyeing equipment are given, and 13 tables conveniently list the amounts of various materials to be used in different methods and with various liquor ratios.



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Absolute temperature and humidity control in your plant will give you results you can *see—in high level production . . . uniform quality of products . . . and improved employee efficiency.*

Every year more and more mills are recognizing the downright economic necessity of air conditioning . . . are depending on York for installations which assure them year 'round operation at a minimum of expense and attention.

Regardless of the size of the mill or the special problems involved, there's a complete range of York equipment to meet every specification. Since 1885, York has been the foremost name in mechanical cooling, and York central station installations are in operation in many of the country's largest and most modern textile plants.

And, whatever your specific needs in air conditioning, there's a complete range of York equipment to meet them, and a York representative ready to talk textile installations. He is prepared to supply your plant engineer, consulting engineer and installing contractor with specific information as to equipment—it's capacities and performance to fit your special needs. His accumulated data on air conditioning in your particular field will be helpful. York Corporation, York, Pennsylvania.

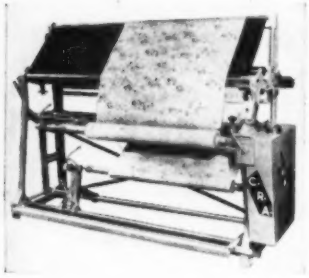
YORK *Refrigeration and Air Conditioning*

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

C.R.A. SCORES AGAIN

THE C.R.A. MEASURING AND INSPECTING MACHINE

FOR FASTER, MORE ACCURATE CHECK ON PIECE GOODS



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News of the month

Avisco Has New Continuous Process. American Viscose Corp., New York, has developed a new "Filamatic" continuous-spinning process for the manufacture of rayon yarn for the textile industry. Although technical details were not disclosed pending patent publication, spokesmen for the company hailed the development as "one of the greatest fundamental advances in rayon technology, ranking in importance with the Topham spinning box, the double-godet, and continuous cake-processing." It was asserted that the key to the new "Filamatic" process was the recent discovery of an entirely new high-speed spinning technique which inherently removes many limitations from the process. Plans are proceeding immediately, it was stated, for the installation of an initial 20,000,000 lb. of annual capacity in the new "Filamatic" continuous-process machines. The new machines will represent additional spinning capacity and will not replace present pot-spinning capacity. They will, however, be installed in existing plants and no new building for this process was said to be contemplated. Compared with the older known machines, the newly developed machine is said to be smaller, faster, and more efficient. It requires only a matter of seconds to produce dried and finished yarn as contrasted with the many hours consumed in the pot-spinning procedure. It is described as an exclusive development of the American Viscose Corp., and no licenses will be required for construction or operation of the new high-speed machine. It is stated that the yarns exhibit a remarkable degree of uniformity, both in physical characteristics and dyeing qualities. It will have 3 to 3½% residual shrinkage. Fine and medium yarn sizes can be produced, as well as the various lusters, twist ratios, and package put-ups required by the trade. American Viscose Corp. has for several years produced heavy-denier yarns for the tire industry by a continuous process. The present development is the company's first entry into the continuous spinning of finer "textile" yarns.

Textile Calendar

Third National Materials Handling Show, Convention Hall, Philadelphia, Jan. 10 to 14, 1949.

AATCC, New York Section, meetings at Kohler's Swiss Chalet, Rochelle Park, N. J.—April 1 and May 6, 1949; in New York—Jan. 14 and Feb. 25, 1949; Outing on June 17, 1949.

Wholesale Dry Goods Institute, annual meeting, Hotel New Yorker, New York, N. Y., Jan. 17 to 19, 1949.

International Heating & Ventilating Exposition, 9th annual show, International Amphitheater, Chicago, Ill., Jan. 24 to 28, 1949, in conjunction with 55th annual meeting of American Society of Heating & Ventilating Engineers.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949. ASTM committee week and spring meeting, Chicago, Feb. 27 to Mar. 4, 1949.

National Cotton Council, 11th annual meeting, Los Angeles, Calif., Mar. 7 to 9, 1949.

Textile Wet Processing Equipment & Supplies Exposition, 71st Regiment Armory, New York, N. Y., Mar. 21 to 25, 1949.

American Cotton Manufacturers Association, annual meeting, Palm Beach, Fla., Mar. 31, Apr. 1 and 2, 1949.

American Gas Association, sales conference on industrial and commercial gas, Andrew Jackson Hotel, Nashville, Tenn., Apr. 5 to 7, 1949.

National Knitted Outerwear Association, annual meeting, Waldorf-Astoria Hotel, New York, Apr. 7, 1949.

Knitting Arts Exhibition, Atlantic City, N. J., April 25 to 29, 1949.

National Association of Hosiery Manufacturers; annual meeting, Hotel Claridge, Atlantic City, N. J., Apr. 25, 1949.

Annual Hosiery Industry Conference, Hotel Claridge, Atlantic City, N. J., Apr. 25 and 26, 1949.

Third Annual International Textile Industries' Exposition, Grand Central Palace, New York, N. Y., May 2 to 7, 1949.

National Cotton Week, May 9 to 14, 1949.

National Packaging Exposition, 18th Annual Show Auditorium, Atlantic City, N. J., May 10 to 13, 1949.

Carolina Yarn Association, annual outing, Carolina Hotel, Pinehurst, N. C., May 12 to 14, 1949.

Tufted Textile Manufacturers Association, annual meeting, Atlanta Biltmore Hotel, Atlanta, Ga., May 26 to 28, 1949.

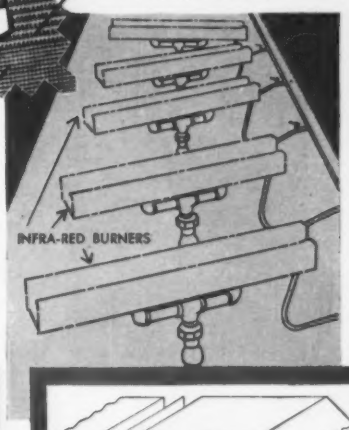
American Society for Testing Materials, first West Coast meeting, Fairmont Hotel, San Francisco, Calif., Oct. 10 to 14, 1949.

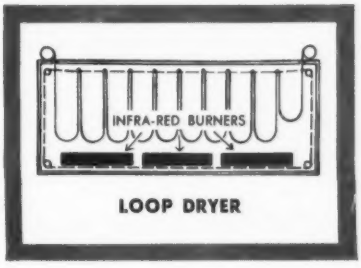
American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8, to 12, 1950.

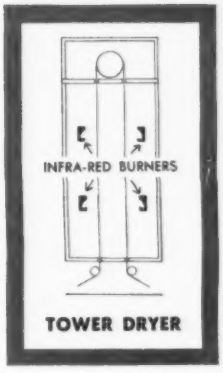
CTI Meets in Shadow of Election. The Cotton-Textile Institute's annual meeting on Nov. 11 came close enough to Election Day to make the results and their implications the background of most of the speeches and conversations. After stressing the downward price readjustment through which

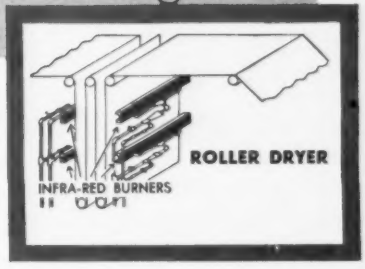
TEXTILE DRYING

Applications of
RADIANT CERAMIC EQUIPMENT
Demonstrate Simplicity of GAS









Illustrations courtesy Carbomatic Corp. Manufacturers of Infra-Red Radiant Gas Ceramic Dryers, Long Island City, N. Y.

Infra-Red Radiant Gas Dryers offer many an opportunity for increasing production without major capital investment for equipment. These applications of flexible GAS include pre-drying, curing, tenter frame drying, polymerizing, and many other processes for special types of fabrics, slashers and nylon settings.

The simplicity of modern Gas Equipment is demonstrated in the schematic installation drawings. Each of these shows a typical application of Radiant Gas Dryers designed to increase the productive capacity of existing equipment.

The results are a matter of record. In hundreds of textile plants the increased capacity of drying equipment ranges from 25% to almost 100%, varying according to type of fabric or yarn.

There's a wide variety of modern Gas Equipment suitable for virtually every textile operation requiring heat. An important characteristic is the automatic controllability of GAS through every temperature required for fabric or yarn processing. There are other features of GAS worth investigating—economy, speed, cleanliness, simplicity and meeting with insurance underwriters' requirements for absolute safety. In fact, it's always worthwhile to keep an eye on what's new in modern Gas Equipment for textile processing.

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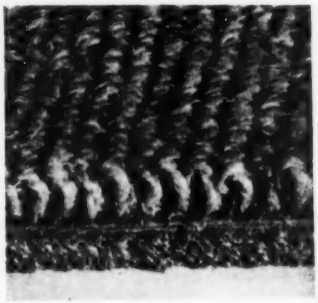
cotton textiles had gone in the previous ten months, Dr. C. T. Murchison, president of CTI, said, "I am confident in my belief that we have already witnessed the maximum of necessary production curtailment, small though it was; and that henceforth the trend should not be materially lower than that of last year. . . . Mill inventories are currently less than three-weeks' production." Lowell Mason, chairman of the Federal Trade Commission, said, "There's not going to be curtailment in cotton goods; there will be good demand for your products. . . . I once said that trade associations were on the way out—but I think the one thing that will save them is that they are the organized voice of their industry. They can forward general arbitration work, new uses, simplification of product, cost understanding, and tax information; and can prevent the disruption of beneficial trade practices." George S. Harris, president of Dan River Mills, who was reelected chairman of CTI, stressed the need of the industry to resolve its internal differences in the interest of harmony and unity. "Our industry," he said, "never faced such problems nationally as we face today, but we are facing them as a divided house. When the 81st Congress meets, we must guide important legislation. It's later than we think, and something must be done immediately." (Some time later ACMA proposed possible merger with CTI.) Raymond Moley analyzed the prime difficulties of the future as three: (1) a prospective surplus, (2) a prospective new round of wage demands, and (3) the danger of some form of price control.

A Boost for Research. Textile Research Institute drew a large attendance to hear the forward-looking speeches at its annual meeting, Nov. 18, 19, and 20 in New York. Of the strictly scientific papers, that of Walter M. Scott director of SRRL at New Orleans, on cotton research is abstracted on page 139 of this issue. The session on general problems stressed fabrics of the future. Theodore Felner, of Macy's, summarized the kinds of textiles the consumer wants, listing 26 types or properties. Miss Angeline Dougherty, of Vogue, sketched the fashion-approved qualities and cloths that can be best served by research. Maurice Holland discussed further expansion of research in the textile field, stressing the importance of the research executive in corporate management as the company's "Vice President of the Future." Pierre Sillan, of Glen Raven Cotton Mills, surveyed fibers in future



BIGELOW-SANFORD CARPET CO. has introduced a new carpet construction called "Cushionlok," shown in cross section above. Blown into the backing of the carpet, the sponge rubber binds the tufts and renders the carpet highly ravel resistant. The resilience of the rubber backing gives a luxury factor throughout the life of the carpet that is said to be superior to the felt-type underlay. Tests are said to indicate that Cushionlok will last substantially longer than the same carpet with conventional backing. The carpet at present comes only in 27-in. width.

fabrics, explaining that it is easier to make something new with new fibers than something new with old. He consequently expressed confidence in synthetics and hope that the steady improvement in their properties will continue. H. Wickliffe Rose, of American Viscose Corp., chairman of TRI, reported on the work of the institute, particularly at the Princeton laboratories, and its potentialities for growth. A. G. Ashcroft, of Alexander Smith & Sons Carpet Co., was elected chairman for the coming year.

A Talk on Orlon. In a report on the properties of Orlon acrylic fiber, Dr. Joseph B. Quig, of E. I. du Pont de Nemours & Co., told 200 members of the AATT in New York on Dec. 2 that the research "objective of developing an outstanding industrial fiber has been reached." Emphasizing its versatility, he said Orlon continuous-filament yarn is the "most silk-like synthetic fiber, while Orlon staple is the most wool-like we know." [Details of uses, properties, etc., see T. W., Sept. '48, p. 102a.] Inspired by the discovery of nylon, research scientists during the last decade have created a new era in synthetic fiber development through work with linear superpolymers, he explained. "Orlon acrylic fiber became a reality," Dr. Quig said, "with the discovery of suitable organic solvents which can be employed for preparing solutions of polyacrylonitrile." High dry and wet tensile strength; high resistance to stretching; high flex life; rapid drying; bonding to resins and rubbers; dimensional sta-

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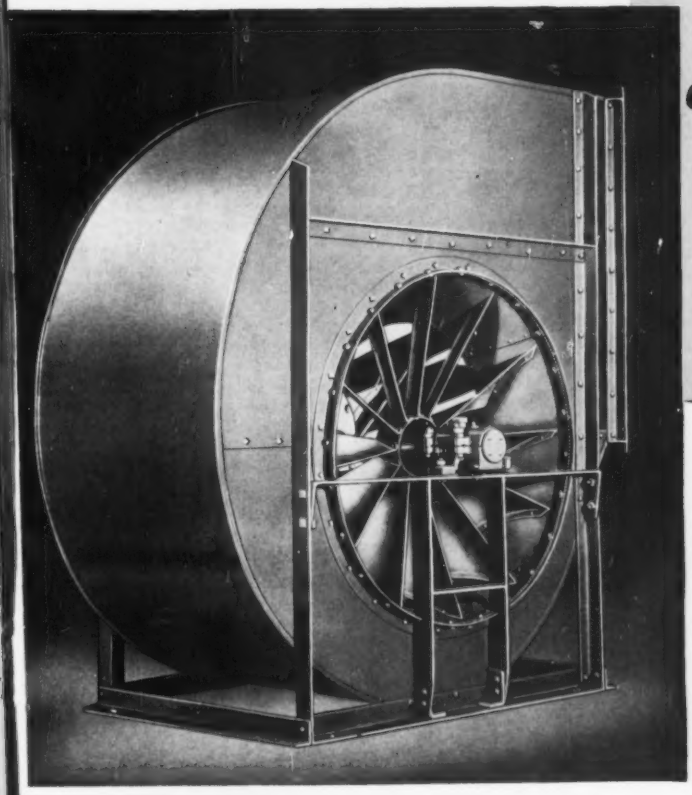

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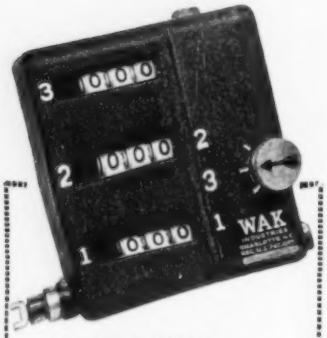

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bility to heated gases and liquids; resistance to acid and acidic fumes at high temperatures; resistance to insects, molds, mildew, and other microorganisms are among the outstanding properties listed for the new fiber.

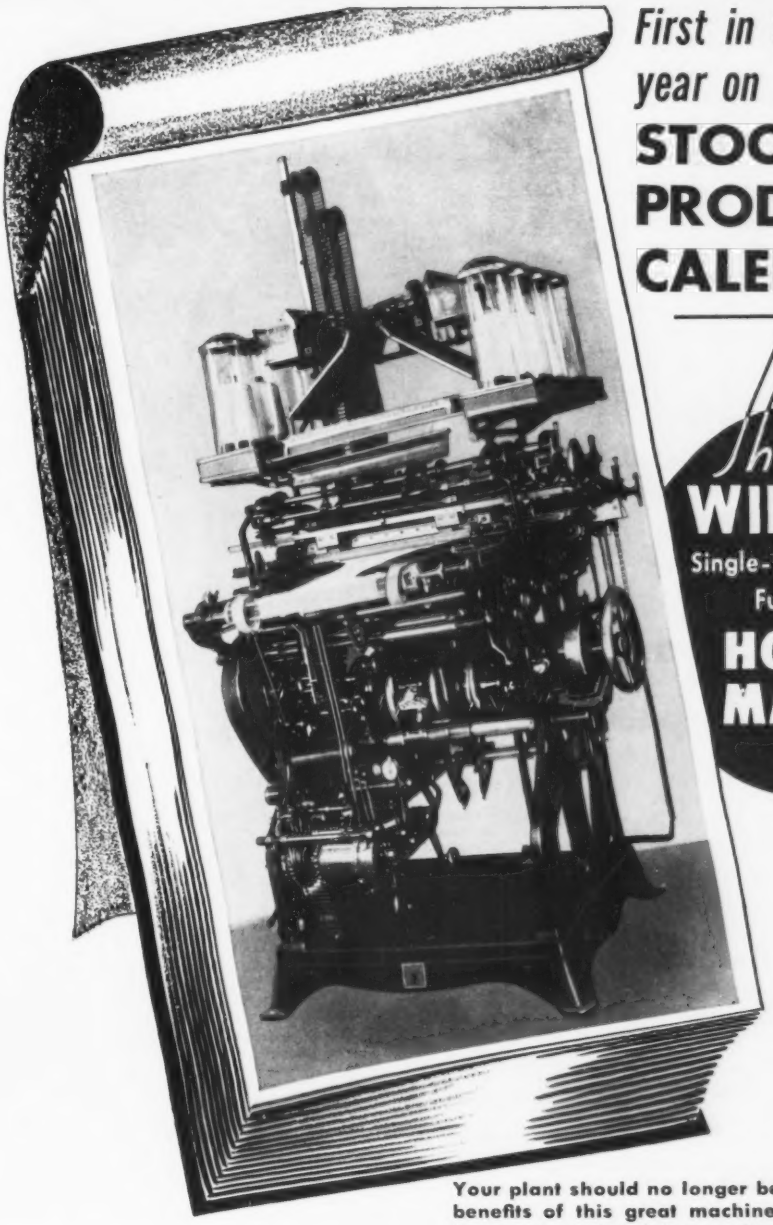
Britain to Get U. S. "Know-How." The Anglo-American Council on Productivity has been set up to effect exchange of information on industrial engineering, techniques, and practices. Transfers of personnel between plants and inter-plant conferences are planned. The ECA, a sponsor of this setup, feels strongly the need to aid in bringing Britain's economy into balance through higher output rates. Philip D. Reed, chairman of General Electric Co., is chairman of the U. S. section of AACP. Among the various committees is one on "Maintenance of productive plant and power," which includes J. Spencer Love, of Burlington Mills, among its four members. American industries will be urged to share "know-how" with British industries.

Labor-Management Cooperation on Safety. A significant approach to better labor relations in industry through management-union cooperation at a noncontroversial level—in the area of accident prevention—is outlined in a case study, "The Joint Safety Program of the Forstmann Woolen Co. and Local 656, Textile Workers Union of America, CIO," has been published by the Institute of Management & Labor Relations, Rutgers University, New Brunswick, N. J. While emphasizing that the primary purpose of any safety program is the reduction of disabling injuries—a purpose that has been achieved to a remarkable degree in the Forstmann plants at Passaic and Garfield, N. J.—the study draws the following conclusion: "It should be noted that this favorable background (of labor—management harmony) appears to have been still further improved by the cooperation of union and management in accident prevention."

Wool Market Turnabout. After a temporary weakening of the wool market, according to word from Australia, prices were again moving in sellers' favor. Sales in all Australian centers reflected an ever-strengthening tone.

Materials-Handling Show and Conference. A broad conference on problems of materials handling in various industries will be held at Convention Hall, Philadelphia, Jan. 10 to 14, under the sponsorship of the materials handling and management divisions of the American Society of Mechanical Engineers. Curtis H. Barker, Jr., is general chairman of the conference and president of ASME Materials-Handling Div. The conference will be held concurrently with the Materials Handling Show where 225 exhibitors will display the latest models of hand trucks, lift trucks, conveyors, hoists, monorails, portable elevators, stacking units, cranes, tractors, trailers, fork trucks, skids, and pallets and their respective accessories. The show, sponsored jointly by the ASME division and the Material Handling Institute, will be one of the largest annual industrial expositions in the country, covering more than 100,000 square feet of net exhibit space. TEXTILE WORLD will be represented at the show in booth 607.

BOTANY MILLS, INC., has acquired a building at 16 West 46th St., New York, and after complete remodeling has moved all its New York offices into it, including that of the president, Col. Chas. F. H. Johnson. Integration of architecture and design has resulted in the functional sales section shown above in the Men's Wear Products Div. of the new building. Concealed fluorescent lighting in coves is supplemented by incandescent spotlights focused on the cabinets and by flush spotlights in the acoustical ceiling. Designs for Business, Inc., and Louis Hatkoff, architect, were in charge of the redesigning project.



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NEWS ABOUT *Suppliers*

Warner & Swasey Co., Cleveland, Ohio, recently entertained three representatives of Sulzer Bros., Ltd., of Winterthur, Switzerland, who were interested observers of the progress of the Sulzer "weaving machine" in this country. The trio consisted of Dr. H. L. Wolfer, managing director; J. Gastpar, director; and Richard Herold. They reported that they are further developing the Sulzer loom and now have a group of them in operation at one of the larger Swiss mills. They were naturally interested in the Warner & Swasey version of the Sulzer creation.

H & B American Machine Co., Pawtucket, R. I., has appointed A. P. Muelberger, lately textile attaché of the American Embassy in Paris, to be H & B representative in Europe, Africa, and the Middle East. He will make his headquarters in Europe. He joined the foreign service of the United States in 1944, prior to which he represented the Commodity Credit Corp. in Alexandria, Egypt, as long-staple-cotton buyer and sat as U. S. member on the board of the Cotton Control Commission in Egypt.

Lestershire Spool & Mfg. Co., Johnson City, N. Y., has appointed Joseph H. Windle, Jr., to succeed the late Frank Steere as New England representative. Mr. Steere had been the Lestershire representative in this territory since early in 1930. Mr. Windle, his son-in-law, has been associated with Mr. Steere in his work for the last year.

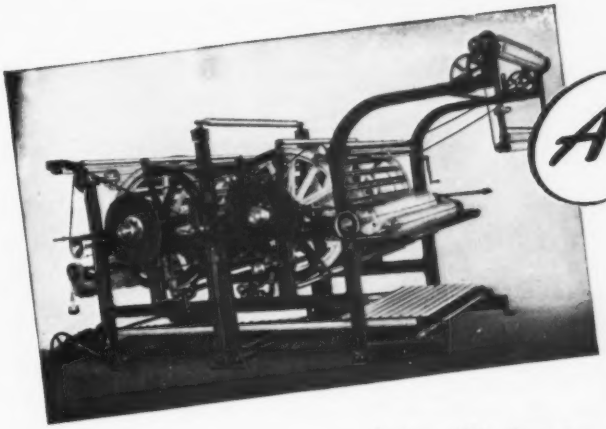
Rodney Hunt Machine Co., Orange, Mass., has added Langdon M. Phillips to its staff as sales engineer. Mr. Phillips was formerly with Shell Oil Co.

Hermas Machine Co., Hawthorne, N. J., has appointed George P. Mason to take over active management of the company succeeding Cornelius Lucas as general manager and secretary. Mr. Lucas, who has been with the company 30 years, will go into semi-retirement while remaining on the board of directors and functioning as a consultant to the business. He has been active head of the company since 1937. Mr. Mason is son of George H. Mason, one of the founders of the company and for many years its president.

HORACE G. CLEVELAND has been elected vice president of Robert F. Branch Advertising Agency, Inc., New York. Mr. Cleveland, formerly vice president of J. M. Mathes, Inc., and at one time advertising manager of Cheney Bros., is widely experienced in the textile, apparel, and decorating fields.

Boconize Sales Corp., New York, has appointed H. J. McAteer, formerly head of the McAteer Woolen & Worsted Co., to be sales manager. The company is a subsidiary of the Bocon Chemical Corp. which together have taken new offices at 45 East 17th St., New York. The parent company has appointed Philip B. Roth as director of technical development. Mr. Roth, who was formerly on the research staff of Aspinook Corp., Jewett City, Conn., will correlate the application of Boconize, durable mothproofing compound, at wool mills with laboratory research and development.

Chemical Development Corp., an affiliate of Esselen Research Corp., Boston, Mass., is moving to larger quarters in Danversport, Mass. Recently located in Cambridge, the company provides confidential manufacturing operations for companies wishing to keep "secret" the formulation or source of



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NEWS ABOUT *Suppliers*

certain materials. For other firms, Chemical Development makes products not readily available, provides volume production for which customer's plant is unsuited, or supplements customer's process development and manufacturing operations.

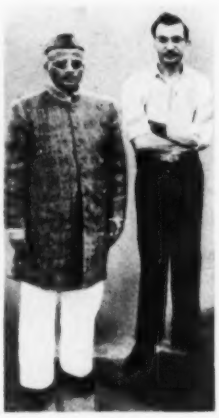
American Lava Corp., Chattanooga, Tenn., has again doubled production capacity for ALSiMag thread guides by an expansion program just completed. This follows a previous increase which doubled the output only a year ago. The latest program provides a floor space of about one acre on one floor in the main plant.

Dixon Lubricating Saddle Co., Bristol, R. I., has appointed J. W. Davis, P. O. Box 745, 122 Dillingham St., Columbus, as its exclusive sales representative in Alabama, Georgia, Louisiana, Mississippi, and Tennessee. Mr. Davis has been a manufacturers' agent for over ten years, and prior to that time, spent many years in spinning and carding rooms. At the same time as this appointment, Dixon named R. E. Holt, Jr., Associates, P. O. Box 1474, Jefferson Bldg., Greensboro, N. C., as exclusive sales representative in the Carolinas and Virginia. Mr. Holt has been acting as sales agent for five years. Before he established his own office in 1943, he was for 11 years purchasing agent for Burlington Mills. These agencies will handle the full line of Dixon's products.

American Cyanamid Co., Textile Resin Dept., Bound Brook, N. J., has appointed R. H. Drukker as sales manager of the Philadelphia territory. T. B. Spence, formerly at Bound Brook, has been assigned to work under Mr. Drukker's direction. D. G. Zachary, also of Bound Brook, has been assigned to the metropolitan territory.

Cooper Alloy Foundry Co., Hillside, N. J., has coordinated all advertising, publicity and public relations under the direction of George Black, its public relations division manager.

Corn Products Co., New York, N. Y., is planning a large style show at Waldorf-Astoria Hotel Feb. 2 in order to promote distribution of its consumer packaged starch, Linit.



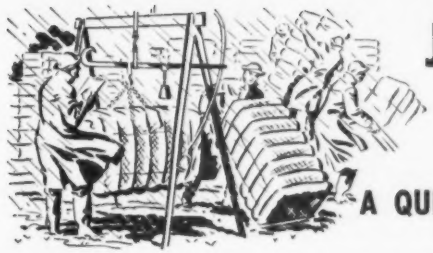
THE HONORABLE SRI H. C. DASAPPA (left), Minister for Finance and Industries, Mysore State, India, recently inspected the filament-rayon, rayon-staple, and cellophane plant constructed in Egypt by Oscar Kohorn & Co., Ltd. Sri Dasappa is one of the leaders in the rapidly industrializing Mysore State, where a rayon plant is to be constructed in the near future.

The Arlind Corp., New York, which represents textile machinery manufacturers of this country in the Near and Far East, has added Fritz Zweifel to its staff as sales engineer. Upon his return from Brazil last May, he went on leave of absence from the H & B American Machine Co., and resigned a few months later for reasons of health.

Geigy Co., New York, N. Y. —Dr. Paul Herman Muller, a native of Switzerland, received the Nobel prize for 1948 in physiology and medicine on Dec. 10 as a result of his work in the Geigy research laboratories on DDT insecticides.

Wallerstein Co., Inc., New York, N. Y., has added Frank A. Taberski to its staff to contact bleachers, dyers, finishers, and management in the textile field on the application of Rapidase for de-sizing. Before joining Wallerstein, Mr. Taberski was a chief chemist at Imperial Paper & Color Corp.

General Latex & Chemical Corp., Cambridge, Mass., has been appointed as exclusive agent for the sale of latex by Harrisons & Crosfield, Ltd., London, England. The latter firm has 46 offices in 12 coun-



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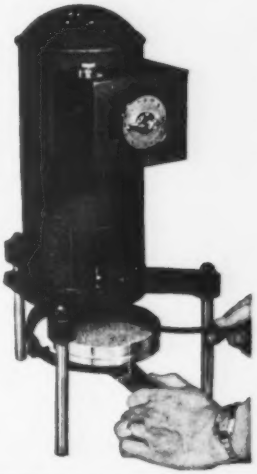
Likewise, no calibration is necessary since moisture is determined gravimetrically and just as accurately as when the sample is dried in the laboratory oven, but much faster. One or several samples may be dried at the same time.

The Moisture Teller is available in several models and sizes to economically satisfy practically any requirement you may have.



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NEWS ABOUT *Suppliers* (Continued)

tries and controls 10% of Malava's rubber industry. H. & C. Latex, Ltd., has lately completed new facilities in Malaya for preparing and shipping latex.

Nopco Chemical Co., Harrison, N. J., has appointed William A. McCready as a member of the Central Area sales force for the company's Industrial Div. He has spent several years in the company's laboratories at Harrison, N. J., specializing on product-application and customer-service problems. His territory will include Indiana and sections of Ohio and Kentucky where he will work directly under John W. Gemmon, district manager.

Hodern-Richmond, Ltd., of Haddenham, England, has appointed D. R. P. Booth as sales manager. The firm manufactures laminated-wood loom accessories such as shuttles, picker sticks, race boards, etc.

Charlotte Chemical Laboratories, Inc., Charlotte, N. C., has named Robert B. Murdoch as vice president to direct the sales of textile chemical specialties, succeeding the late Peter S. Gilchrist. Mr. Murdoch was formerly with National Aniline Div. of Allied Chemical & Dye Corp.

American Aniline Products, Inc., New York, has opened its new and larger offices at 50 Union Sq., New York.

Thomas J. Fleischer, Atlanta, Ga., has added J. J. Perry, Jr., to his staff. Mr. Perry has been for a number of years with the Miller Co.

Hayes Industries, Inc., Jackson, Mich., has appointed J. Paul Laird as sales representative for the Northeastern states and Canada for the company's Textile Div. for the sale of light-metal loom beams, section beams, and tricot beams.

Pennsylvania Salt Mfg. Co., Philadelphia, Pa., has appointed Hyman Iserson and Maurice E. Miville as research chemists at its Whitemarsh Research Laboratories.

Wyandotte Chemical Corp., Wyandotte, Mich., has appointed Alexander Leggin as assistant to Dr. Thomas H. Vaughn, vice president in charge of research. Mr. Leggin, with offices in Washington, D. C., will act as liaison officer with government agencies. Wyandotte has acquired the manufacturing facilities and clay deposits of Blue Mountain Clay Co.

HOBART G. FERREE, JR., has recently been added to the sales staff of Scott & Williams. His headquarters will be the regional sales office, Security National Bank Bldg., High Point, N. C. This branch is under the management of F. H. Hallenbeck. Mr. Ferree was graduated from the School of Textiles of North Carolina State College in 1942.

Quaker Chemical Products Corp., Conshohocken, Pa., has added E. Taylor Mobley to its staff of technical representatives. Mr. Mobley is currently serving the textile industry in Georgia and Alabama. For the last 18 years, Mr. Mobley has been associated with the General Dyestuffs Corp.

Standard Fabricators, Inc., New York, has appointed E. B. Wheeler, P. O. Box 501, Charlotte, N. C., to represent it in the Southern territory.

Libbey-Owens-Ford Glass Co., Toledo, Ohio, has appointed James W. Blummer as sales representative in Atlanta, Ga.

Reynolds Metals Co., Louisville, Ky., has appointed the American Brass & Copper Co., Oakland, Calif., as a specialty distributor of its aluminum products.

Gould Storage Battery Co., Trenton, N. J., has initiated a series of practical one-week "schools" to teach better techniques of storage battery maintenance and repair to foremen, supervisors, and engineers in the many industries which employ lead-acid batteries for motive power, standby, or direct-current supply.

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the NASH 79 AUTOMATIC QUILL POLISHER

For Refinishing Loom Bobbins

This machine will clean, buff, and polish loom bobbins, and the operation is accomplished automatically at production rates up to 40 pieces per minute. No harsh abrasive action is employed during the operation and the original finish coating of the quill remains intact. Using the No. 79 eliminates broken picks as it assures smooth quills at all times that are free from sharp surface projections and burnished to a high dry luster. All dirt is removed from grooves and the resultant polish has a surface free from any deposit. Repeated polishing of quills through the Nash No. 79 will in no way damage the quills or reduce their life.

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We also manufacture Nash 88 and Nash 37 Automatic Refinishers for throwing bobbins

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SPECIAL FINISHING MACHINES SINCE 1890 NASH

DuraBeau Reg. U.S.A. and Canada TEXTILE FINISHES

—that's what hosiery gives Winter and Summer, Spring and Fall,—if it is beautified and protected by the "film" that *DuraBeau* imparts. Yes, soft, smoky-dull, alluring sheerness, plus the added economy effected by "miles more wear", due to that extra resistance to spots, runs and snags.

SCHOLLER BROS., INC. Mfrs. of Textile Soaps, Softeners, Oils, Finishes • Collins & Westmoreland Sts., Phila. 34, Pa. • St. Catharines, Ont., Can.

IT'S EASY
to remove TRAMP METAL
with HOMER PERMANENT
non-electric MAGNETIC
SEPARATORS

HOMER PERMANENT NON-ELECTRIC MAGNETIC SEPARATORS

PLATES—Sizes from 4" to 40"
Single or triple gap

PULLEYS—Sizes from 12" to 30" dia.
Belt widths 4" to 60"

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Face widths 4" to 60"

LIQUID TRAPS—
Pipe sizes to 10" dia.

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To fit pipe diameters 3" to 20"

UNITS (Portable)—Sizes from 12" to 30" dia. Belt widths 4" to 60". Lengths to specification

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Dept. T-24 LIMA, OHIO
Producers of Magnetic Separator Equipment Since 1923

M·B "AMOSKEAG" PNEUMATIC
ROLL PICKER

MODEL A.V.T.
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of
REMOVING LINT and FLY
from the top rolls and other parts of the drafting elements on
SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning . . . PATENT APPLIED FOR. Weight only 14 oz. Special grease-sealed bearings. No lubrication required.

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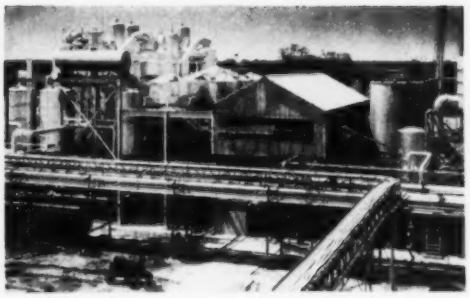
NEWS ABOUT *Suppliers* (Continued)



DIAMOND ALKALI CO., Cleveland, Ohio, has brought its new Houston Works at Pasadena, Texas, nearly to its designed production capacity, which is a daily output of 220 tons of chlorine and 240 tons of caustic soda. The works were recently completed at a cost of $14,500,000 on a 325-acre tract. The above view shows the overhead installation of process piping and power cables which contributes to flexibility of plant operation, assures easier inspection, and simplifies maintenance. Caustic-evaporation area is in left background.

Babcock & Wilcox Co., New York, has released a new 16-millimeter educational film, "Steam for Power," which depicts the development and application of modern steam boilers.

Atlas Powder Co. has closed the Coated Fabrics Div. of its Zapon plant at Stamford, Conn. All the machinery and equipment in this division has been purchased by Consolidated Products Co., Inc., 15 Park Row, New York, N. Y.

New Departure Div., General Motors Corp., Bristol, Conn., has transferred Ralph O. Wirtemburg from the position of Eastern regional sales manager to that of special assignments originating from the general sales manager's office. James P. Gillilan, manager of the department's New York zone office, succeeds Mr. Wirtemburg as Eastern regional manager. Clifton S. Fleet succeeds Mr. Gillilan.

Torrington Co., Torrington, Conn., has appointed Richard C. Lawton as district engineer in the territory of Western New York state with headquarters in Rochester for the company's Bearings Div.

J. O. Ross Engineering Corp., New York, has moved its Los Angeles office into new and larger space in the new Westinghouse Bldg., 600 St. Paul Ave., Los Angeles 14. R. W. Morsch continues in charge.

Carrier Corp., Syracuse, N. Y., has elected George N. Lilygren as a vice president. He was appointed comptroller of Carrier in June, 1947, and will now serve as vice president and comptroller.

Colgate-Palmolive-Peet Co., Jersey City, N. J., has appointed J. M. Nykiel as divisional manager of its Chicago Industrial Div., succeeding the late J. A. O'Brien.

Oakite Products, Inc., New York, N. Y.—How recent developments in the field of cleaning and allied procedures are helping industry to combat rising production costs was the central theme of a series of technical-sales conferences.

Victor Chemical Works, Chicago, Ill., has started operations at its new Morrisville, Pa., plant. The new plant will produce phosphoric acid and other phosphate compounds and is under the supervision of E. L. Conant, superintendent.

United States Steel Corp., New York—National headquarters of United States Steel Supply Co., warehousing subsidiary of United States Steel Corp., will move to 208 S. La Salle St. from the present site at 1319 Wabansia Ave., Chicago. The warehousing plant and Chicago district operation sales will continue at 1319 Wabansia Ave.

Sherwin-Williams Co., Cleveland, Ohio, has placed E. H. Steger in charge of the company's new textile industrial zone with headquarters in Charlotte, N. C. D. S. Shimp will head the Southeastern industrial zone with headquarters in Atlanta, Ga.

Points that are properly ground—keen-edged and absolutely uniform in height—are an essential of good carding.

That's why, in addition to precision setting, Wissco Card and Napper Clothing is ground in an air-conditioned room, on grinding machines so perfectly balanced that points are ground to an accuracy of ½ of c thousandth of an inch. This precision grinding saves hours of "smoothing-up" after the clothing has been placed on your cylinders.

For card clothing performance you'll be keen about, specify Wissco.

WISSCO HAND STRIPPING CARD

The finest card you've ever used. And when worn it may be returned to us for complete reconditioning and refacing at about half the cost of a new card. Send for description and price list.

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CARD AND NAPPER CLOTHING

for wool, worsted, asbestos and specialties

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL AND IRON CORPORATION

Sales Office and Plant — 56 Sterling Street, Clinton, Mass.
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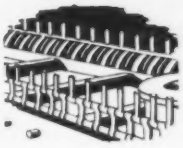
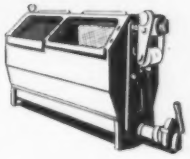
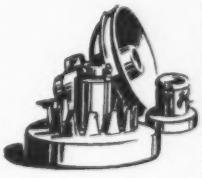
Money-Saving Maintenance Cleaning for the Textile Industry



TO CLEAN TENTERING CHAINS... economically! Periodically gun-spray chains with hot Oakite solution. Steam-Detergent Gun quickly removes all soils. The Oakite man will show you this and a tank-cleaning set-up. Call him. He'll be glad to help.



DESCALE WATER-COOLED EQUIPMENT . . . effectively! Lime scale on the water sides of systems reduces equipment efficiency... raises costs. Periodically remove lime scale and rust with Oakite Compound No. 32. The Oakite Technical Service Representative will gladly start you off on this low-cost Oakite descaling procedure.



KEEP RUST OFF PARTS... easily! To protect replacement parts from damaging rust dip them in Oakite Special Protective Oil. Surfaces take on a thin, transparent coating that locks out indoor rust. No predrying. FREE booklet gives how-to-apply details.

That's just a Sample!

Get the full details on those three jobs and sixty-three more in the Oakite Textile Mill Cleaning Digest. You'll save cleaning dollars! Just drop us a card and we'll send you a free copy.

OAKITE PRODUCTS, INC., 42 Thames St., NEW YORK 6, N. Y.
Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE

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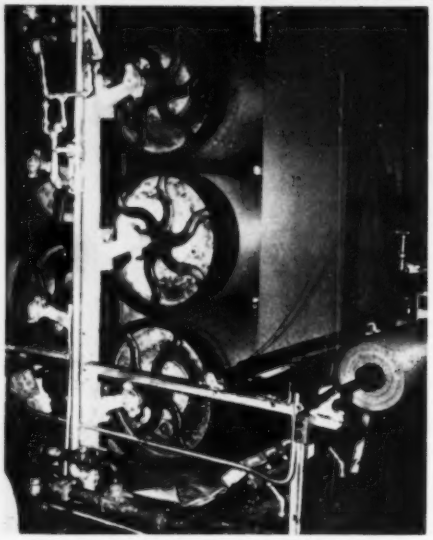
Specialized Industrial Cleaning

MATERIALS • METHODS • SERVICE

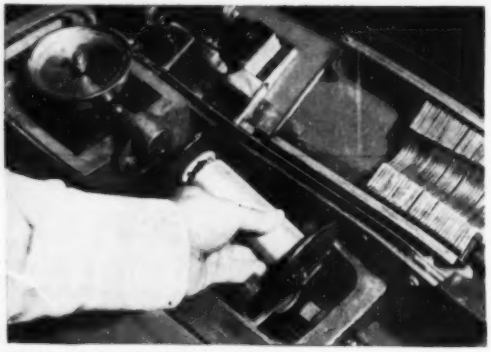


RED-RAY BURNERS ON STEAM CANS

at Paragon Dyeing & Finishing Co., Paterson, N. J. eliminate can marks—improve quality and increase production.

Write for bulletins

RED-RAY MANUFACTURING COMPANY, INC.
455 W. 45th St. New York 19, N. Y.



MACK BOBBINS "Stand the Gaff" because strength, too, is specified and tested at ALLENTOWN

This specially built testing machine pulls the heads off Mack Bobbins to make sure they'll stay on for you. Allentown developments (many exclusive) based on these tests result in better, stronger bobbins. An average of well over a ton is required to pull the head off a Mack Bobbin.

This is another of the rigid tests that performance prove Mack Bobbins before you buy them. The fourth in this series on the cumulative benefits you get with Mack Specifications will appear soon.

ALLENTOWN BOBBIN WORKS, Inc.
423 N. 14th Street Allentown, Pennsylvania

NEWS ABOUT Mills

Cotton Mill News

Acala Cotton Mills, Inc., recently incorporated in California, plans to build $1,500,000 cotton mill to spin and weave Western cotton. Company has authorized capitalization of 450,000 shares of common stock, $10 par, and has been authorized to sell 22,000 shares at par. Proceeds of this issue will be used to build first unit of mill, to hold 40 Draper looms. Next unit will be built for yarn spinning. Scott C. Towar is president of new firm, and Henry M. Towar, vice president. Towar brothers built and operated Towar Cotton Mills, Inc., Niles, Mich., and Towar Textile Mills Corp., Toledo, Ohio, for more than 20 years.

Allen Industries, Inc., 6260 N. Broadway, St. Louis, Mo., has let contract to Murch-Jarvis Co., 718 Locust St., St. Louis, for one-story and basement addition, reported to cost over $100,000. Main offices of company are at Detroit, Mich.

Arkansas Cotton Mills, Inc., Morrillton, Ark., has let contract to Ditmars-Dickman-Pickens Construction Co., Little Rock, Ark., for additions and improvements, to cost approximately $400,000.

Arkwright Mills, No. 2 unit, is being activated in Camp Croft's surplus industrial area near Spartanburg, S. C. Number of operatives will reach 130 when 300 looms are in place and operating this month.

Beacon Mfg. Co., Swannoa, N. C., is selling dwellings, many of which are duplex houses, to individual employees. About 175 buildings are involved in transaction.

Brenham Cotton Mills, Inc., Brenham, Tex., has asked bids for new one-story addition. Cost reported about $125,000, with equipment. Norton & Mayfield, Bryan, Tex., is architect.

Canadian Cottons, Ltd., Montreal, Que., has taken over plant of Powdrell & Alexander of Canada, Ltd., at Cornwall, Ont., and will operate in future. Proposed name of unit, which becomes fourth Canadian Cotton plant in Cornwall, is Glengary Textiles, Ltd.

Carolina Mills, Inc., Dillon, S. C., has filed in the United States District Court at Columbia a voluntary petition for reorganization in bankruptcy under Section 10 of the Federal law. The court has appointed as temporary co-trustees of the mill, N. Walker Edens, attorney of Bennettsville, and W. H. Corry of Dillon. The plant has 32,000 spindles.

Columbus Mfg. Co., Columbus, Ga., plans further diversification of its present industrial-fabric production to include sheets and pillow cases after June 1, 1949.

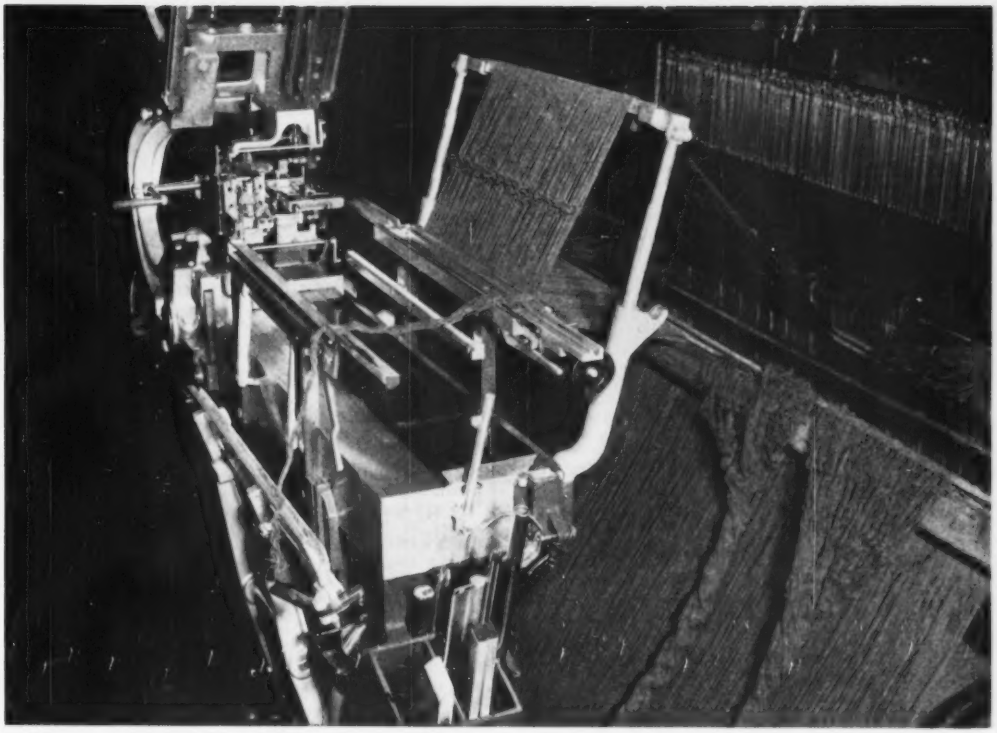
Cone Mills Corp., Greensboro, N. C., has appropriated $2,000,000 to be used by end of 1949 in first phase of $6,000,000 program of home modernization in its four mill communities at Greensboro. Company owns about 1,454 houses in the area.

Fort Worth Cotton Mills, Fort Worth, Tex., has been bought from Horvath Mills, Inc., of New York, by Joseph List, president of Cedar Park, Inc., Fall River, Mass. A. Frank Evans, Fall River, was the negotiating agent. Plant has 103 cards, 21,372 spindles, and 632 Draper looms. It has lately been running on 80-square print cloths.

Fulton Bag & Cotton Mills, Atlanta, Ga., has work going forward on addition with 41,000 sq. ft. of floor space, to be used as opener room.

Greentex Corp., Salisbury, N. C., plans to dismantle plant and relocate in Georgia. Plant employs about 40 workers.

Groves Thread Co., Gastonia, N. C., has completed installation of stainless-steel dye vats. Installation was made by the Edwin I. Butler Co., Char-



BARBER-COLMAN

PORTABLE WARP TYING MACHINE

MODEL LS

The above view shows the portable Warp Tying Machine in operation of tying-in a new wool warp at the loom. The ends on the left have been tied. The reed, harness and drop wires are left undisturbed, saving the labor and time required for removing and replacing the weaving elements, as well as re-gaiting of the loom. This machine is particularly adapted for tying-in wool, worsted, mohair and other difficult yarns. The Figure-8 knots securely hold all types of yarn. All warps are selected from an end and end lease resulting in perfectly straight warps.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

BARNES TEXTILE ASSOCIATES, Inc.

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318 MONTGOMERY BLDG., SPARTANBURG, S. C.

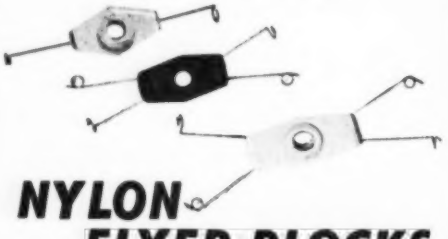
The BTA, Inc., staff policy is unique in that each individual mill problem is considered by the organization as a whole thus broadening the coverage from an experience standpoint.

They are sometimes called a Board of Strategy because the requirements vary from a long-distance phone call for advice to a demand for a complete mill survey covering all phases of textile manufacturing, merchandising, cost engineering, and executive control.

They have served over 170 mills and some executives are surprised to learn that more than 50 are woolen or worsted mills. A specially trained senior engineer heads up the wool division and the activity in this branch of the industry has kept a staff of engineers busy on modernization programs, cost surveys, fabric changes, and organization policies. Every mill presents a different problem—no two are alike.

All of the staff travel thousands of miles every year to serve these mills. They also help to train men for the mills to take responsibility for the engineering program which allows the Barnes' engineer to continue to serve on a consulting basis. Write us about your problems and we will be glad to discuss them with you.

MOLDED ONE PIECE



NYLON FLYER BLOCKS

NEED NO LUBRICATION
RUN SMOOTHLY—NO BINDING

These blocks are molded in one piece with bore molded in. This does away with loose parts and insures a smooth finish overall and a uniform hole to fit spindle. Correct balance gives better yarn because of uniform tension. Blocks are lighter than other blocks of comparable size. May be rewired without tools or jigs in less time than other types. Made in 3 types. Choice of two colors, black or white. Rust proof, washable. Minimum breakage because of construction and material. Have successfully withstood 23 months mill test.

M. J. McHALE CO.

136 W. Market St., Scranton 8, Pa.

NEWS ABOUT *Mills*

lotte, N. C., and consists of three units totaling 88 ft. in length.

Hermitage Cotton Mills, Camden, S. C., has work under way on expansion program that will more than double present output. Three-story brick wing is under construction, and 300 looms and 16,000 spindles have been installed.

Hoosac Mills Corp., New Bedford, Mass., is making repairs and reinforcements to weave shed. Plans are by Charles T. Main, Inc., 80 Federal St., Boston, and T. Loranger & Sons, 404 Nash St., New Bedford, has general contract.

International Braid Co., Providence, R. I., has been acquired by William Brand & Co. for its manufacture of varnished insulating sleeving of cotton, rayon, and glass fiber. Plant has been transferred to Fall River, Mass., where acquiring company's needs for all forms of braid will be produced.

Irene Mills, Inc., Taylorsville, N. C., branch of Gastonia Combed Yarn Corp., with headquarters in Gastonia, N. C., has recently completed expansion program which cost $500,000.

Kendall Mills, Walpole, S. C., plans spending in excess of $1,000,000, on extensive machinery modernization. Completion of project is planned for early 1950.

Maverick Mills, East Boston, Mass., plans construction of $4,000,000 fine-cotton-goods mill near Greenville, S. C. New plant will have 480 looms, approximately 28,000 spindles, and employ between 350 and 400 workers. Single-story steel-and-brick building will have approximately 200,000 sq. ft. of space and will be air-conditioned. Plant will be located on 100-acre site on White Horse Road.

Monument Mills, Housatonic, Mass., has been purchased by George A. Hovarth, Inc., New York, N. Y. Mill will continue to do business under same name. According to reports, stock was purchased at $50 per share.

Nashua Textile Co., Inc., has been organized in Nashua, N. H., for manufacture of automobile fabrics and shoe linings. Concern will occupy No. 6 mill and No. 2 storehouse formerly used by Nashua Mfg. Co., which manufactured same products. New organization is composed of Alderman James R. Milliken, who was superintendent of Nashua Mfg. Co., Eugene F. McQuesten, supervisor of Textron, Inc., and Robert B. Hamblett, attorney.

Naumkeag Steam Cotton Co., Salem, Mass., will have plans prepared by Lockwood Greene Engineers, Inc., Spartanburg, S. C., architect and engineer, for proposed new mill at Penrose, N. C.

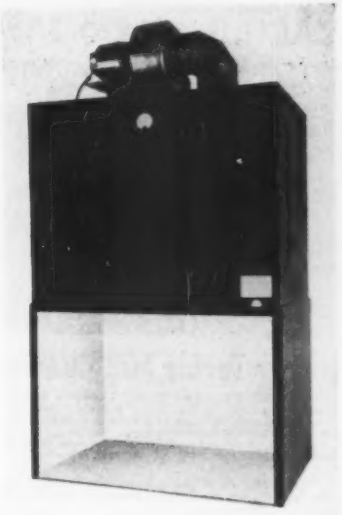
Pepperell Mfg. Co., Boston, Mass., has stockholder approval of merger of wholly owned subsidiary of same name that brings Maine and Massachusetts organizations together. Stockholders of parent company will surrender their shares and receive like number of shares in former subsidiary.

Pinecrest Cotton Mills, Inc., Pine Bluff, Ark., has been incorporated and plans construction of large cotton mill. Initial investment in plant and equipment will exceed $1,000,000. Plant will have more than 113,000 sq. ft. of floor space and will employ 250 operatives at start of operations. Structure will be financed by Industrial Foundation, Inc., Pine Bluff community organization, and will be erected on 21-acre tract at junction of U. S. Highway 65 and Rheinhart Rd. Firm will install machinery valued in excess of $800,000 and will have own bleaching unit at plant. William Snower, Jr., heads the company.

Powdrell & Alexander, Inc., Danielson, Conn., has plans for $750,000, plant at Glendale, Calif. New machinery to be installed will produce 7,000 pr. of curtains daily. Floor space will be 35,000 sq. ft. Materials for the curtains will be woven at Danielson plant.

M. Salzberg Co., New York, N. Y., has purchased approximately one-quarter of operating floor space of Esmond Mills, Esmond, R. I. Salzberg company already operates plant in Pawtucket, R. I., and plans to move this mill to Esmond in expansion move that will involve addition of about 200 looms to present equipment.

Color Matching ACCURACY and SPEED in all weather by MACBETH



Macbeth Color Matching Skylights assure accurate matches—speed up your color work. You can make quick, accurate matches any time of the day, any day of the year under Macbeth Skylights. Color conscious customers demand perfect color matches. Standardize on Macbeth Skylights and be sure of satisfied customers. Call upon Macbeth engineers to solve your color problems.

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To keep belts in service longer, use only GENUINE Clipper Belt Hooks applied with Clipper Belt Lacers.

use Clipper Belt Hooks

Clipper Hooks are made of the finest quality wire—BETTER than ever before—produced for our exclusive use. Hooks hold with firm, sure grip—give longer satisfactory service.

and Clipper Belt Lacers!

The Clipper No. 9 Portable Lacer laces belts up to 6 inches wide in one quick, easy operation. Under powerful pressure hook legs are embedded flush with the surface of the belt and points clinched, making a perfect joint. Phone your mill supply jobber for a demonstration!

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BELT LACING EQUIPMENT

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VACUUM CLEANER

Built for Textile Mill Cleaning

The new TORNADO* Heavy Duty Vacuum Cleaner is designed and built to give textile men a big, extra powerful, large capacity portable cleaner that does the work of a built-in system. Completely removes dust and lint which discolor weaving. Has tremendous suction —self-cleaning filter—both wet and dry pick-up—and converts from suction to blowing by movement of a lever. 1-man or 2-man operation.

Proved in Textile Mill use to give quicker, more thorough cleaning, and yet save spoilage, power and labor costs.

2 H. P. to 10 H. P.

Scientifically designed textile attachments

Write today for detailed information.

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* Trade Mark Reg. U.S. Pat. Off.

BUY ★ U.S. ★ SECURITY BONDS NOW!

NEWS ABOUT *Mills* (Continued)

Shuford Mills, Inc., Hickory, N. C., and **Geneva Cotton Mills,** Geneva, Ala., have purchased major part of spinning machinery of Boaz Mills, Boaz, Ala. Liquidation of all machinery in Boaz mill is expected to take several months.

Springs Cotton Mills has started construction of modern pilot mill, executive offices, and experimental laboratory for mills at Fort Mill, S. C. According to reports, building will not be supported, but will be suspended in manner not previously utilized. The company has filed application in office of secretary of state at Columbia, S. C., to increase capital stock from $10,000,000 to $15,000,000.

Texas Textile Mills, Dallas, Tex., has work in progress on rebuilding of branch mill at McKinney, Tex., following tornado damage last spring. Cost reported $125,000.

West Point Mfg. Co., West Point, Ga., has purchased site for new office building to cost $400,000. Research division at Shawmut, Ala., will be enlarged at cost of about $150,000.

Wool Mill News

Gay Brothers, Cavendish, Vt., has sold Cavendish plant to **Ames Worsted Co., Lowell,** Mass. Plant will operate as Cavendish Woolen Corp. after Dec. 15, and will produce same line of woolens. Gay Brothers will continue operations at their Ludlow plant.

Maria Woolen & Worsted Mills, Inc., will soon be in operation on men's wear and women's dress goods at new location two miles from Clemson, S. C. F. J. Came is president of company.

Mohawk Carpet Mills, Inc., Amsterdam, N. Y., has acquired Charles Lachman Co., Inc., Phoenixville, Pa. Charles Lachman, president and treasurer, and R. H. Johnson, vice president and general manager, former officers of Lachman company, will keep respective posts under new arrangement.

National Felt Works, 1134 Cherry St., Chicago, Ill., plans new one-story mill, 115x175 ft., at Cherry and Division Sts. Cost reported close to $150,000. Sidney Minchin, 127 N. Dearborn St., is architect.

Nice Yarn Co. has commenced manufacture of yarn in former plant of North Star Woolen Co., Wakefield, R. I., which Nice company recently purchased. Arthur Greaves has become general manager.

Renfrew Woolen Mills, Arthur St., Renfrew, Ont., has awarded contract for construction of carding mill, 154x82 ft., at same address.

Synthetic Mill News

American Bemberg Corp., and **North American Rayon Corp.**—U. S. Government, which has majority holdings in these companies invited sealed bids for government-held control on Dec. 13. The high bid of $17,111,126 by Beaunit Mills was accepted.

Asheboro Weaving Corp., Asheboro, N. C., has leased new building, now under construction, from builder. First 300 looms are expected to be in operation by early part of 1949. Principals of corporation are Britt M. Armfield, Dumont Bunker, and J. W. Stank.

Belding, Heminway, Corticelli Co., New York, N. Y., has let contract to C. W. Hancock & Sons, Inc., Lynchburg, Pa., for addition to mill at Bedford, Va. Building will contain about 40,000 sq. ft. floor space and reported cost is about $400,000, with equipment.

Carter Fabrics Corp., Greensboro, N. C., unit of J. P. Stevens & Co., has started work on new 20-acre trucking center where fleet of 21 tractor-trailer trucks will be maintained.

Celriver Plant, unit of **Celanese Corp. of America,** Rock Hill, S. C., is now employing about 1,000 persons in production of filament yarn.

Deering, Milliken & Co. now has 200 operatives at its Gerrish Milliken Mill, Pendleton, S. C., which is operating on small scale pending installation of remainder of machinery. Same company has construction under way for new finishing plant near Pendleton. Daniel Construction Co. is in charge of latter project.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., plans multi-million-dollar plant for production of new fiber, Orlon, at Camden, S. C., with

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By IVAR MOBERG, Instructor in Weaving, Loomfixing and Designing, Nashua Manufacturing Company, Instructor at Lowell Textile School

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Here are detailed instructions on the practical setting, adjusting, and timing of modern looms. Step-by-step, this guide gives you instructions on all phases of cotton loomfixing. If you want a complete course in loomfixing, or only a refresher to broaden your knowledge and increase your skill COTTON LOOMFIXERS' MANUAL will fit your needs to a "T". In this one book you get complete coverage of important subjects such as: left-off, harness, picking, warp-stop, filling-stop, and protector motions; loom construction; filling feelers; cutters; box multiples; shuttles and many others.

2. RAYON TECHNOLOGY

Handbook for Textile Mills

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Seventeen experts in the field show you the best ways of processing rayon on your own mill machinery. This handbook discusses actual working conditions . . . shows how best to use equipment; analyzes the specific problems likely to arise in using rayon staple, and brings you practical methods for solving them. It covers winding, throwing, warping, slashing, quilling, and weaving operations, in all divisions of the industry. RAYON TECHNOLOGY discusses the construction of rayon fabrics, both those made of continuous filaments, and those made with continuous filaments supplemented by spun yarns . . . everything you want to know about processing rayon.

3. STAPLE COTTON FABRICS

Names, Descriptions, Finishes and Uses of Unbleached, Converted and Mill Finished Fabrics

By JOHN HOYE, Instructor New York Textile Evening Trade School

241 pages, 6 x 9, fully illustrated, $4.00

Here's an encyclopedia of staple cotton fabrics showing you how to identify these fabrics, how to make them, how to finish them, and how to use them. It's an authoritative reference manual of specific trade and technical information on staple American cotton fabrics—designed for use by all concerned with the manufacture, sales and use of these goods. STAPLE COTTON FABRICS covers all types of cotton fabrics . . . unbleached, converted, and mill finished . . . used in garment manufacture and industrial trades. It gives you trade descriptions, illustrations, details of construction, yarns, weaves, etc.

4. PRINCIPLES OF KNITTING

by MAX C. MILLER, Designer and Inventor of Knitting Machines and Fabrics

234 pages, 6 x 9, 193 illustrations, $4.50

Principles involved in the production of knitted fabrics; descriptions of the mechanisms used; and the various garments produced are covered in this practical guide. PRINCIPLES OF KNITTING describes in detail: circular and flat machines, regular and warp fabrics, the principles underlying the various loop structures, their application in various types of machines from earliest days down to the present. Illustrations spotlight the features and important facts about these topics. With this book as a guide you'll gain a clear understanding of the design, uses and advantages of present day knitting machines.

5. FUNDAMENTALS OF SUCCESSFUL MANUFACTURE

by GEORGE GAYNOR HYDE, Consulting Engineer

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Here are suggestions, techniques and case studies of manufacturing fundamentals. An ideal, step-by-step guide to help you organize a new business or modernize an existing one. The manufacturing executive will gain from this one book a wealth of practical methods and considerations needed to achieve better organization and output. FUNDAMENTALS OF SUCCESSFUL MANUFACTURE covers such processes as designing and processing the product, housing the enterprise, personnel practices, management controls, etc.

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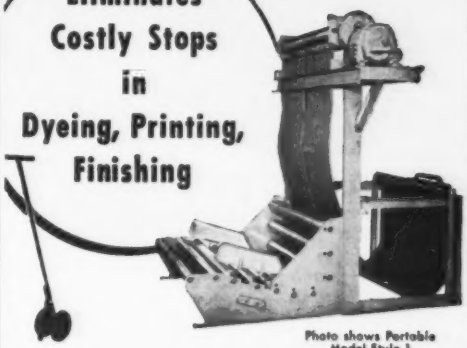

Photo shows Portable Model Style 1

SLACK in the scray box of the Mount Hope Continuous Roll Feed permits full speed operation of your dyeing, printing or finishing machines while supply rolls are being changed. And one person can quickly, easily sew on a new roll. Here is a valuable saving in time and labor, two precious commodities in any mill. A third saving effected is the virtual elimination of cloth damage due to machine stoppage when supply feed is interrupted.

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3. Scray normally full. Level maintained by synchronizing nip roll speed with speed of machine being fed, by variable speed drive from direct current motor, or from mechanical speed changer and constant speed motor.

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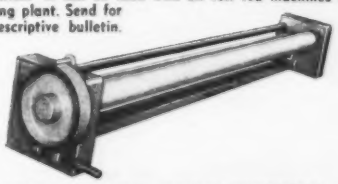

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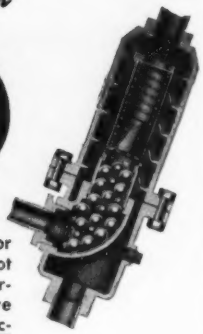

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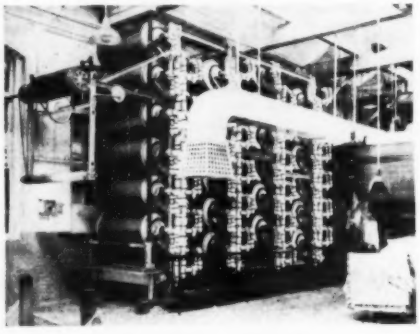

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NEWS ABOUT *Mills*

construction work to begin next March. Tract of 800 acres is located on Wateree River, three miles from Camden.

Greenwood Mills, Greenwood, S. C., plans $20,000,000 building, expansion, and modernization program that includes construction of $5,000,000 to $6,000,000 rayon plant at site yet to be chosen. Present group of mills headed by James C. Self, are Greenwood Cotton Mills, and Mathews Mills, Greenwood; and Ninety-Six Cotton Mills, Ninety-Six, S. C. Also, included in new construction phase is Harris Mill, $3,000,000 to $4,000,000 rayon project for which ground is being cleared near Greenwood. Expenditure of $11,000,000 will be made by next spring on existing plants.

High Point Weaving Co., High Point, N. C., division of Burlington Mills Corp., will make improvements in mill, including installation of additional equipment. Cost will be about $175,000.

London, England – Polish Purchasing Mission here, acting on behalf of Textile Import Bureau, Lodz, Poland, has signed £250,000 contract for Nelson continuous-spinning plant that will produce 2½ tons per day of continuous-filament rayon yarn.

Perval Corp., Falls Ave., Norwich, Conn., synthetic fabrics, plans one-story addition, 50x255 ft., reported to cost over $130,000, with equipment. Chandler & Palmer, Norwich, is architect.

Schneider Mills, Inc., Taylorsville, N. C., is nearing completion. New mill is housed in $800,000 building, and machinery will include 458 of latest Model XD Draper looms and auxiliary equipment. Rayon fabrics for women's dress goods and lingerie are to be manufactured.

William Skinner & Sons, Holyoke, Mass., has plans in progress for new addition to mill to cost about $300,000, with equipment. Lockwood Greene Engineers, Inc., Boston, Mass., is architect and engineer.

Viscose Mexicana, viscose-rayon plant at Zacapu, Mexico, is beginning operations. New plant will produce 6,000,000 lb. of yarn annually. Plant is subsidiary of Celanese Corp.

Knitting Mill News

Bunting Full-Fashioned Hosiery, Inc., Asheboro, N. C., is newly organized concern, with C. C. Bunting and M. L. Johnson, both of Asheboro, as incorporators. They will operate hosiery mill near Asheboro, under capital stock of $100,000.

Chadbourn Hosiery Mills, Inc., Charlotte, N. C., will spend about $1,000,000 during 1949 on installation of new machinery and replacement of obsolete machinery. No building program is planned.

W. B. Davis & Sons, Inc., Fort Payne, Ala., has been sold to new corporation headed by Clyde Watkins. Company will be known in future as W. B. Davis Hosiery Mills, Inc. Robert E. Davis, Sr., former president of company will devote his time to Davis Co., which owns several patents controlling use of rubber in hosiery tops.

Francis-Louise Full-Fashion Mills, Inc., Valdese, N. C., has work nearing completion on two-story addition, measuring 48x130 ft. Gray finishing department will be housed on first floor of new addition, making space for installation of eight more machines in vacated space; and new 51- and 54-gage knitting machines will be installed on second floor of new building. Carrier Corp. is installing air-conditioning system for entire plant.

Gotham Hosiery Co. of Canada, Ltd., St. Hyacinthe, Que., which now has extensive modernization program under way at plant, plans to install 51-, 54-, and perhaps 60-gage machines. Company has completed installation of four 54-gage, and two 51-gage 31-section Kalio machines.

Orange Knitting Mills, Orange, Va., has plans maturing for new one-story addition, reported to cost over $75,000. Erection contract will be let soon. Stopper & Lichty, 2112 Spruce St., Philadelphia, Pa., is architect.

Orient Hosiery, Ltd., recently incorporated as wholly-owned subsidiary of Canadian Silk Products Corp., is establishing $2,000,000 plant in Brockville, Ont., which is expected to go into production some time in 1949. Plant will eventually employ 350 people

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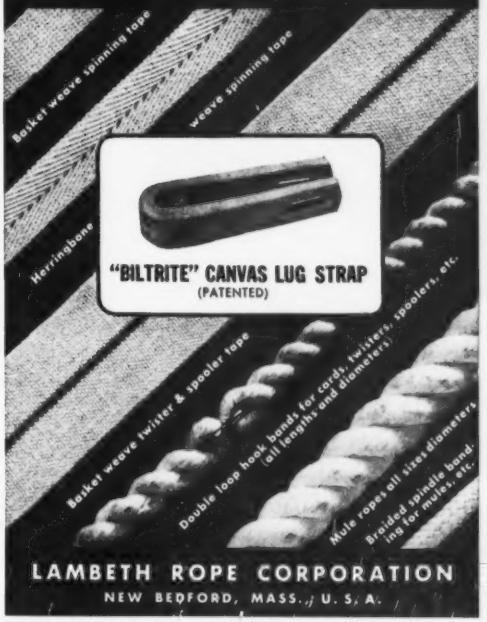
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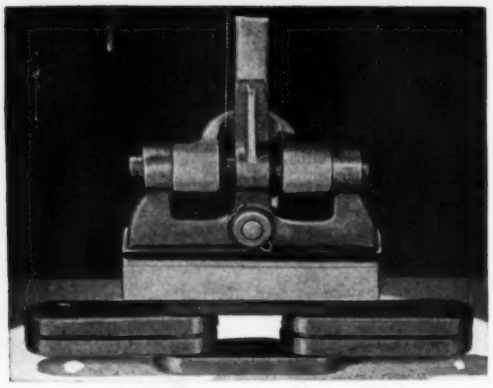

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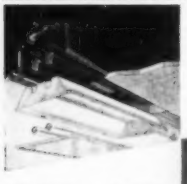

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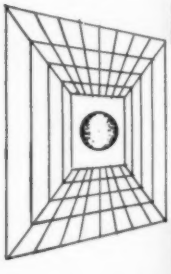

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NEWS ABOUT *Mills* (Continued)

for production of nylon hosiery. Anglin-Norcross, Ontario, Ltd., 57 Bloor St. W., Toronto, has been awarded contract.

Owen Osborne, Inc., Gainesville, Ga., plans improvements in plant that call for installation of air-conditioning system. New 51-gage knitting machines will replace certain present equipment, and auxiliary machinery will be added. Looping and seaming departments will be removed to another section of mill to provide straight-line production facilities.

Owen Sound, Ont. — Construction has started on new hosiery manufacturing plant controlled by group headed by Leo H. Liddell, former manager of local Circle Bar Knitting Mills. New mill is to be located on Pottawatami River, and will be 60x120 ft.

Shannon Hosiery Mills, Columbus, Ga., has closed bids for new addition and will award contract soon. James J. W. Biggers & Associates, Columbus, is architect.

Skyland Hosiery Mill, near Asheville, N. C., is nearing completion. Plans call for overall investment of $1,200,000.

Stanley Knitting Mills, Inc., Oakboro, N. C., which has been operating at Red Cross, N. C., since it began operations two years ago, has moved into new plant at Oakboro.

Supersilk Hosiery Mills, 1151 Florence St., London, Ont., has started work on erection of two-story addition, 46x113 ft. It will be of brick construction to cost $100,000.

Tejidos Soltex, S. A., of Cuba, is a newly established tricot mill which operates six Reiner, 168-in., high-speed machines with related warping and wet-finishing machinery. Harry C. Pieper is president and Jose M. Illan is treasurer. Authorized capital is $500,000.

United States Knitwear Co., 350 Fifth Ave., New York, N. Y., has purchased 12-story building at 164-66 West 25th St., and will occupy in near future for expansion.

Wollner Bros. has installed flat-bed knitting machinery in plant at Carrollton, Ga., and operations are expected to begin soon.

Dyeing & Finishing Plant News

Atlantic Dye Works, Paterson, N. J., has installed new equipment for handling fabrics to finish 64 in. wide. Plant is now capable of daily output of 1,000 pieces. It has also installed special finishing equipment to apply crease-resistant resins, water repellents, antifume finishes, etc.

Boaz Mills, Inc., Boaz, Ala., has been purchased by C. M. Elrod, who will continue to operate the mills.

Cranston Print Works, Cranston, R. I., has awarded three contracts in Greenville, S. C., for work on new finishing plant at Fletcher, N. C. Potter & Shackelford, Inc., has general contract for construction of plant. J. E. Sirrine Co., prepared plans, and Poe Piping & Heating Co. has subcontract for pipe work. New plant will open in July, 1949, and about 400 will be employed.

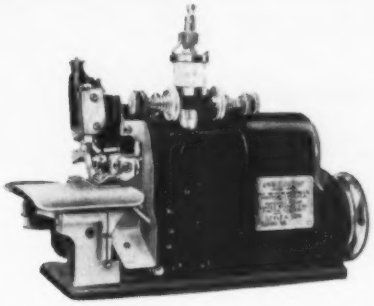
Lee Dyeing Co., Johnstown, N. Y., which has been operating its business from plant of Diana Knitting Co., has purchased mill of American Beaver Lamb Corp., and will gradually expand its finishing facilities. New unit will be under management of Benjamin Wishnietsky, former superintendent of dyeing at Triangle Finishing Corp., Johnstown. He will set up dyeing and finishing equipment for warp-knit fabrics.

Luxor Finishers, Inc., 136 East Seventh St., Paterson, N. J., new firm for dyeing and finishing rayon piece goods, has begun operations. Joseph Parmelli is president. Luxor company took over portion of machinery and premises from Bunker Hill Dye Works, former occupants.

Smith Finishing Co., Greensboro, N. C., has begun operations. Newly established concern is engaged in dyeing, finishing, and packing of hosiery. Everett Smith is owner.

Swansea Print Works, Swansea, Mass., has walls up for new finishing-plant addition from plans by I. T. Almy.

Textile Service Co., Boston, Mass., has changed name to Devondale Mills, Inc.



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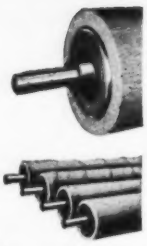

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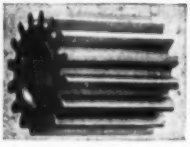

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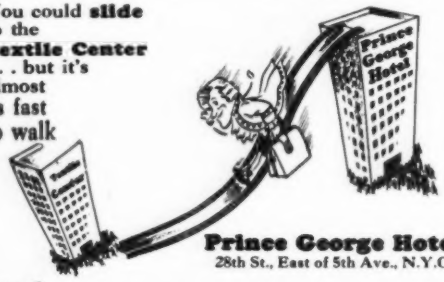

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NEWS ABOUT *Men*

Carlton R. Richmond, Boston, Mass., has been elected president of West Point Mfg. Co., West Point, Ga., succeeding the late George H. Lanier. **Joseph L. Lanier,** of West Point, son of former president, was named by directors to continue as executive vice president. **George Woodruff,** of Atlanta, Ga., was elected member of board of directors.

Britt M. Armfield is president, **Dumont Bunker** and **J. W. Stark** are vice presidents of Asheboro Weaving Corp., Asheboro, N. C., new organization. In addition to these duties, Mr. Armfield is vice president of William Klopman & Sons; Mr. Bunker, president of Rayon Fabrics Corp.; and Mr. Stark, former president of Stark Bros. Corp. and General Ribbon Corp., both of which have been acquired by Burlington Mills Corp.

J. L. Lanier has been elected president of Lanett Bleachery & Dye Works, Lanett, Ala. He succeeds his father, the late George H. Lanier. Mr. Lanier was also elected president of Dixie Cotton Mills, La Grange, Ga. **George Olmstead, Jr.,** has been elected a new director of Dixie Cotton Mills to succeed Mr. Lanier.

Frank R. Riesenberger has been elected president of Van Raalte Co., Inc., New York, N. Y., succeeding the late Irving K. Hessberg. With Van Raalte since 1922, Mr. Riesenberger has been vice president since 1933.

W. Francis Fitzgerald has been appointed acting managing director of the North American office of the International Wool Secretariat, New York, N. Y., to succeed **Morton Savell,** formerly managing director, who resigned Dec. 31.

Dr. George Linton, of Institute of Fashion Technology, New York, has been elected head of the American Association of Textile Technologists for 1949. **Fred Noechel,** of Botany Mills, is first vice president.

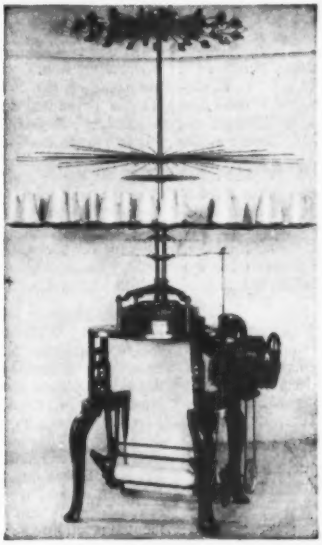
Allan L. Brassell, president of United States Testing Co., has been elected director of Belding Heminway Corticelli Co., Inc., New York, N. Y., to fill vacancy on board.

HAYDEN B. KLINE has been elected president of Industrial Rayon Corp., Cleveland, Ohio, to succeed Hiram S. Rivitz, who became chairman of the board of directors on Jan. 1. Mr. Rivitz had been president since 1927. Mr. Kline joined the company as a member of its research staff in 1925, shortly after his graduation from MIT, and was named vice president in 1930. In this capacity he headed up the research program which led to the development of the continuous process now used in the manufacture of textile and tire yarns in the company's Painesville and Cleveland plants, and which is being adopted in eight foreign countries. He has been a director of the company since 1933, and a member of its executive committee since his election as executive vice president in 1946.

Henry R. Mallory, executive vice president of Cheney Bros., Manchester, Conn., has been elected a director of Russell Mfg. Co., Middletown, to succeed the late H. K. W. Welch.

Richard G. Conant, Weston Howland, and **J. L. Jennings** have been named members of board of directors of West Point Mfg. Co., West Point, Ga.

Smith Crow has been elected a vice president of Erlanger Mills, Inc., Lexington, N. C., where he was formerly in charge of production, industrial relations, and property. Mr.



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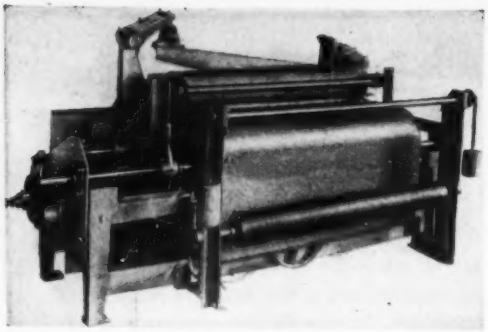

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NEWS ABOUT *Men* (Continued)

Crow is also vice president of Leward Cotton Mills, Inc., Worthville, N. C. **E. P. Cofield**, of Lexington, is also a new vice president of Erlanger organization. Mr. Cofield is coordinator of sales with mill's selling agent, J. W. Valentine Co., New York. **Julian Robertson**, president of Erlanger Mills, Inc., has relinquished his position as treasurer of company, and board of directors has appointed **J. C. Childers** to succeed him.

Fred D. Frissell, Jr., vice president of Burlington Mills Corp., and general manager of division of decorative fabrics with operations at Burlington, N. C., and Galax, Va., has resigned effective Jan. 1, 1949.

Karl Bishopric, president and treasurer of Spray Cotton Mills, Spray, N. C., was elected president of the North Carolina Cotton Manufacturers Association at the annual meeting in Pinehurst on Oct. 18. **Frank C. Williams**, of Roanoke Mills Co., Roanoke Rapids, N. C., was elected first vice president; **Julian Robertson**, Erlanger Mills, Inc., Lexington, N. C., second vice president. The directors reelected **Hunter Marshall**, of Charlotte, secretary-treasurer.

Lindsey H. Mason, of S & M Dye Works, Inc., was elected president of the Philadelphia Textile Manufacturers Association at the annual meeting Nov. 18. He succeeds **R. A. Lukens**, of Continental Mills, Inc., who was not a candidate for reelection. Other officers elected were: first vice president, **Glendon E. Robertson**, The Roxborough Co.; second vice president, **Alfred A. Forster**, Clifton Yarn Mills, Inc.; secretary, **William J. Maurer**, F. W. Maurer & Sons Co., Inc.; treasurer, **William T. Galey, 3rd**, Aberfoyle Mfg. Co., Inc. Reappointed managing director of the PTMA was **E. K. Pierson**.

James Dixon, of Calco Chemical Div., has been elected chairman of the Philadelphia Section, AATCC, succeeding **Arthur M. Gordon**, of Martin Fabrics Corp. Other officers elected were: chairman emeritus, **Elmer C. Bertolet**, of Temple University; vice chairman, **Richard B. Stehle**, Brehm & Staley; treasurer, **A. E. Raimo**, John Campbell & Co.; secretary, **Thomas H. Hart**, Hart Products Corp.

R. Sidney Flood, of Baxter, Kelly & Faust, has been elected president of the Pennsylvania Textile Executives Association, succeeding **Arthur E. Davis**, of Davis Textile Co. Other officers are: vice president, **Walter Pratt**, of George Grayson & Son; second vice president, **George Kerman**, Raritan Woolen Mills; secretary, **Gwynn E. Shepard**, Shepard Mills; treasurer, **John Murphy**, Walther Mfg. Co.

H. C. Hoffman, William I. Hudson, Jr., William H. Burroughs, and **John R. Wilson** have been elected vice presidents of Reeves Bros., Inc., New York, N. Y. **Arthur M. Kerr**, for many years vice president and a director of company, has been granted year's leave of absence due to illness. **John A. Becher**, who has directed research and development operations of company for last several years, has been elected vice president of Fairforest Co., subsidiary of Reeves organization. He will coordinate manufacturing activities of Eagle & Phenix Mills, Columbus, Ga. Also at Fairforest, **C. Scott Lewis, Jr.**, has been elected vice president.

Arthur L. Emery, vice president and general manager of Brookside Mills, Knoxville, Tenn., has retired; and will be succeeded by **Stanley Jessiman**, former superintendent of Raycrest Mills, Pawtucket, R. I. At same mill, **Norman Garlington** becomes superintendent, succeeding **John W. Card**.

Pierre S. du Pont, III, has been elected director of E. I. du Pont de Nemours & Co., Inc., to fill vacancy left by the late Elwyn Evans. New director, now manager of rayon tire-yarn sales, joined company as chemist in 1934.

Joseph W. Brady has been named a director of Dundee Mills, Inc., Griffin, Ga. Mr. Brady has been sales manager of company since 1942, when it opened its own sales offices. He was elected a vice president last year.

John Learned has been elected member of board of directors of Cheney Bros., Manchester, Conn.

Dr. Leopold Eckler, has joined Celanese Corp. of America, New York, as technical consultant. Dr. Eckler previously held executive positions with

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GREENVILLE, SOUTH CAROLINA

NEWS ABOUT *Men*

the Ansco Div. of General Aniline & Film Corp. and its predecessors, and was works manager at the Binghamton, N. Y., plant since December, 1947.

Henry E. Littlejohn, general manager of plant of Carter Fabrics Corp., South Boston, Va., has been promoted to research engineer at the pilot plant of J. P. Stevens & Co., Greenville, S. C. **Milton Southerland,** superintendent of South Boston plant, has been promoted to general manager. He is assuming his new responsibilities immediately.

Dr. George W. Low, Jr., has been appointed manager of American Viscose Corp.'s Sylvania division at Fredericksburg, Va. He succeeds **George J. Alles,** who has been appointed purchasing agent.

Monroe M. Martin has been promoted to plant manager of Carter Fabrics Corp., Greensboro, N. C., succeeding **J. D. Sheppard,** who has become plant manager of Hannah Picket Worsted Mills, Rockingham, N. C.

Louis S. Fryer, vice president in charge of production for Industrial Rayon Corp., Cleveland, Ohio, has resigned from that company.

Cornelius A. Callahan, executive vice president and general manager of Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass., has resigned.

Arthur T. Branigan has been appointed agent of the Kerr Mills of American Thread Co., New York. He succeeds **W. W. McLeod** who has resigned to go with the Chicopee Mfg. Corp. as vice president in charge of manufacturing.

George Groh, formerly with Colonial Mills, Clarksville, Va., has been appointed to head up all development work on synthetics for Cannon Mills, Inc., Kannapolis, N. C.

Luther H. Hodges, general manager of Fieldcrest Mills, Spray, N. C., has gone to Germany on special mission for U. S. Army.

Dr. William M. Murray, Jr., native of Marietta, Ga., and graduate of Emory and Princeton universities, has been named permanent director of the Southern Research Institute, Birmingham, Ala. Dr. Murray has been serving as acting director since the retirement last March of **Dr. Wilbur A. Lazier.**

Dr. Leonard Smith, Washington, D. C., research director of the National Cotton Council of America, has been elected to serve a three-year term on the board of Textile Research Institute.

Stanley West Sullivan, recently associated with Knox Products, Inc., has been appointed director of promotion for the Textile Bag Manufacturers Association, Chicago, Ill.

Sumner D. Greengross has been appointed sales representative for Native Laces & Textiles, Inc., New York, to cover Boston and surrounding territories. This area was formerly covered by **Henry A. Goldston.**

George W. Felker, III, has joined Southeastern Cottons, Inc., New York, to devote his efforts to product development. Mr. Felker was with Dan River Mills, Inc., from 1938, except for a period of war service.

Alfred Greenfield has become assistant general manager of **M. T. Stevens & Sons,** North Andover, Mass. Mr. Greenfield has left position as agent of Guilford & Sangerville Woolen Mills, Sangerville, Maine, to join Stevens organization.

John Gregory will soon become general manager of Southern plant of Cranston Print Works, Cranston, R. I.

Duncan Rogers has been appointed general sales manager of Pepperell Mfg. Co., New York. He has been with the company since 1924.

Richard W. Powell has been appointed to newly created post of production manager of Peterborough Div. of Verney Corp., West Peterborough, N. H. This will permit **William F. Brosnan,** director of dyeing and finishing, to devote greater portion of activities to work outside Peterborough finishing plant. Mr. Powell was formerly superintendent of Lincoln Bleachery & Dye Works, Providence, R. I.

Paul W. Maus, who resigned recently as superintendent of knitting for Knit Products Corp., Belmont, N. C., has joined Aberle, Inc., Philadelphia, Pa., as general manager of production. He succeeds

NEWS ABOUT *Men* (Continued)

Charles R. Van Horn, resigned. Mr. Maus' former duties at Knit Products are being handled by present members of operating staff.

J. P. Barker has resigned as superintendent of Anglo Fabrics Co., Webster, Mass., to become general manager of Lincoln Mills, Pascoag, R. I.

C. C. Baldwin, Jr., is to be special assistant to **William H. Hoch,** director of Textiles & Fibers Div., National Security Resources Board. Mr. Baldwin was formerly with Woodward, Baldwin & Co., Inc., New York, N. Y.

W. W. Aultman has resigned position as general superintendent and production manager of Newberry Textile Mills, Newberry, S. C., to accept position with Sellers Mfg. Co., as general superintendent of Jordan Plant, Cedar Falls, N. C., Royal Plant, Wake Forest, N. C.; and Saxapahaw Plant, Saxapahaw, N. C.

Hoyt T. Hambright, personnel director of Rex Mills, Inc., Gastonia, N. C., for last four years, has resigned to enter business for himself.

Walter Scott has resigned as overseer of combing at Talbot Wool Combing Co., Norton, Mass.

C. W. Smith, agent of Lincoln Mills, Pascoag, R. I., has resigned.

Arthur V. Sullard has become overseer of dyeing at Sanco Piece Dye Works, Phillipsburg, N. J.

Cornelius Sullivan will retire as overseer of dressing for M. T. Stevens & Sons Co., Stevens Mill, North Andover, Mass.

Albert Windle has become overseer of dyeing at Northfield Mills, Northfield, Vt.

Walter Wood, superintendent of finishing at Arlington Mills, Lawrence, Mass., has resigned that position and is going with Deering, Milliken & Co. at new plant in Pendleton, S. C.

James Wylie has resigned as superintendent of Raylaine Worsteds, Inc., Manchester, N. H.

James Young has become overseer of dyeing at Jamestown Worsted Co., Jamestown, N. Y.

Thomas F. Malloy has become overseer of dyeing for Warren Fabrics Co., West Warren, Mass.

Albert McDowell has become superintendent of finishing at Lincoln Bleachery & Dye Works, Lonsdale, R. I.

L. J. T. Morris has resigned as overseer of dyeing for Horner Bros., Eaton Rapids, Mich.

Roy Nelson has become overseer of weaving for Lone Star Cotton Mills, El Paso, Texas.

C. S. Pennington has become superintendent of Port Leyden Knitting Mills, Port Leyden, N. Y.

Harry Lambert has become overseer of worsted drawing and spinning at Wood Worsted Mills, Lawrence, Mass.

OBITUARY

Charles C. Harding, 59, president of Piedmont Silk Mills, Inc., Greensboro, N. C., and president of Piedmont Throwing Mill, Dobson, N. C., died recently following an automobile accident. He was a former president of Dixie Throwing Co., and was secretary-treasurer of Sedgefield Mills, Inc., Greensboro.

Leonard Welch Renfrew, 81, Norwalk, Conn., retired president of Buckley Brothers Co., New York, N. Y., died Nov. 7.

Edward H. Rathbun, 82, chairman of the board of Dunn Worsted Co., Woonsocket, R. I., died Nov. 13. He was president of Rathbun Knitting Co., Woonsocket, R. I., until its liquidation, and a vice president of Woonsocket Institution for Savings.

Albert F. Hyde, 85, retired, died Nov. 18. He was at one time president of A. G. Hyde & Sons, New York cotton converters.

Joseph A. Weil, 57, president of Weil Corset Co., New Haven, Conn., died Nov. 13.

Clarence A. Potter, 56, a member of the hosiery firm of Potter & Chadwick, New York, died Nov. 18.

Albert C. Clifton, 69, of Waco, Texas, chairman of the board of Texas Textile Mills in

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the uses of Durene yarns are as limitless as the imaginations of those who style with them
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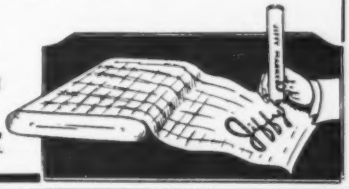

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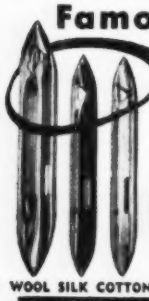

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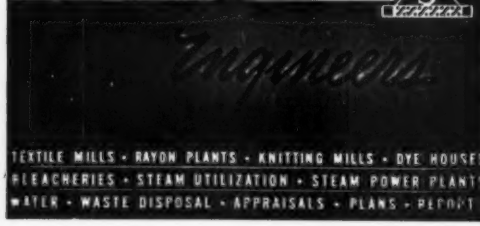
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NEWS ABOUT *Men*

Waco, Dallas, and McKinney, Tex., died recently. He was a past president of Texas Manufacturers Association.

Albert Cullen Hewitt, 68, president of Hewitt Hosiery Mill and Consolidated Hosiery Mill, Marion, N. C., died Oct. 26.

George Hancock, past president of Narrow Fabrics, Galt, Ont., died recently.

W. Thow Munro, 60, chairman of the British Wool Textile Mission to Canada, died Oct. 23. He was a director of the firm of Munro & Co., Ltd., of Edinburgh, specialists in wool textiles.

Maj. Douglas Hallam, secretary of Canadian textile associations, died in Toronto, Canada, Dec. 14. He had been secretary for many years of Canadian Woolen & Knit Goods Manufacturers Association, Cotton Institute of Canada, Silk & Rayon Institute, and Primary Textile Institute.

John A. Larkin, 57, vice chairman of Celanese Corp. of America, died Nov. 26, in New York. He had been a leader in the synthetic-yarn industry for many years. He commenced his career in that industry by participating in the initial organization of the Celanese company.

Frank H. Naylor, 71, vice president of Jordan Mills, Columbus, Ga., died Nov. 16. He was at one time with the Bibb Mfg. Co. and served as agent for 17 years. He joined Jordan Mills in 1937 in the office of vice president.

Harry M. Horton, 80, former vice president of U. S. Finishing Co. and a director of Queen Dyeing Co., Providence, R. I., died Oct. 28. He had been with Queen Dyeing Co., Pawtucket, R. I. for several years, and had been foreman, assistant to the superintendent, and resident manager there.

Clay W. Roberts, 62, who operated Roberts Braiding Co., Columbus, Ga., until his retirement some time ago, died recently.

Brown W. Wilson, 48, a director of American Yarn & Processing Co., Mount Holly, N. C., and head of Wilson Sales Corp., cotton and merchandising business, and subsidiary of American Yarn & Processing Co., died at his home at Gastonia, N. C., recently.

FRANK NASMITH, 69, a cofounder, past president, honorary life member, and silver medalist of the Textile Institute (of England); for 23 years editor of "Textile Recorder"; and for 21 years United Kingdom executive manager of Universal Winding Co., Providence, R. I., died at Manchester, Eng., on Nov. 16, as reported in this column last month. He was a pioneer in establishing textile machinery exhibitions in Britain and was secretary to the British delegation at the first World Cotton Conference in 1919 in the United States. He retired last July from his Universal post.

Harold T. (Pat) Homuth, 50, vice president and managing director of Otto Homuth Sons Ltd., a textile firm founded by his father in 1911, died recently in Preston, Ont.

Frank H. Naylor, 71, vice president of Jordan Mills, Columbus, Ga., died Nov. 16.

Raynor S. Duncombe, 63, a former assistant secretary of Hope Webbing Co., Pawtucket, R. I., died Nov. 2.

Henry C. Dresser, 76, retired mill engineer, died Oct. 30. Mr. Dresser had been associated with G. E. Huggins, of New York, for 31 years, prior to his retirement in 1944. During that time he had managed a number of the Huggins Southern mills. In 1896, he designed and built Louise Cotton Mill for the Charlotte Machine Co.

Alfred M. W. Saupe, 61, sales manager in New York for Apex Hosiery Co., Philadelphia, Pa., died Nov. 10.

Howard Mason, 60, general manager of Roxbury Carpet Co., Saxonville, Mass., died Oct. 24. He had been with the firm for 25 years.

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REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED—YOUNG Man, preferably textile school graduate who has had at least one year in field of manufacturing of synthetic yarns and fabrics, for position as assistant quality control man. Plant location in vicinity of Gastonia, N. C. Apply for appointment to P-6241, Textile World.

WANTED: TEXTILE Technologist with prior experience in textile plant laboratory and finishing department to execute phases of research in finishing textile fabrics. Experience in cotton textiles preferred but wool or synthetic experience will be considered. Prefer younger man with creative imagination and ability to carry out newer ideas and techniques. Contacts with industrial, technical and scientific groups afforded. Opportunity to develop along technical and managerial lines. College chemistry or textile school background desired. Position in Philadelphia area. Statement as to salary expected and to prior training and experience to be furnished. Enclose snapshot or passport photograph. Write P 7220, Textile World.

WANTED: A good man to take charge of sewing room in sweater mill. About 150 sewing machines. Good position and good pay for the right party. Midwest town. P 7252, Textile World.

INDUSTRIAL ENGINEER: Large firm manufacturing fabric and plastic products requires services of young industrial engineer. Experience in sewing plant desirable. Trainees considered. Write full details to: Crawford Mfg. Co., Box 1496, Richmond, Va., attention: A. S. Gowen.

WANTED BY manufacturing concern in N. Y. Metropolitan area: Chemist with A.B. or M.S. for research and development of products for textile processing and finishing. Work is mainly laboratory with some field service. Thorough knowledge of textile processes, preferably gained by mill experience required. State age, education and qualifications. Reply P 7391, Textile World.

FOREMAN TRICOT plant Metropolitan area. Experience in making nylon underwear cloth on high speed reiner tricot machines and direct warper. Write full particulars and salary desired. P 7230, Textile World.

CORDUROY FINISHER. Wanted first class man capable of organizing operating corduroy dyeing, cutting and finishing plant. All replies confidential. P 7445, Textile World.

WANTED—YOUNG man with textile chemistry background to become part of organization manufacturing warp knit cotton, rayon acetate, silk and nylon fabrics. Splendid chance to develop into important member of organization. P 7446, Textile World.

(Continued on page 264)

OPPORTUNITY FOR

TEXTILE SCHOOL GRADUATE

Opening for textile engineering graduate with a long-established engineering firm to do machinery layout work on textile plants. Prefer an experienced draftsman who knows textile machinery. Give full information in letter of application.

P-7364, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED

TEXTILE FOREMAN

to take charge of Small New York Mill. Thorough understanding of dyeing, finishing, starching, calendering of sheetings and print cloths. Knowledge of repairs secondary. Steady position. State experience, salary desired, references, etc.

P. 7411 Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

ASSISTANT EDITOR

For textile publication. State education, experience, qualifications and salary requirements.

P-7430, Textile World
330 West 42nd Street, New York 18, N. Y.

Don't forget the Box Number

WHEN answering the classified advertisements in this magazine, don't forget to put the box number on your envelope. It's our only means of identifying the advertisement you are answering.

MEN WANTED

POSITIONS OPEN

We can place: Manager rayon printing, bleaching, dyeing and finishing plant; assistant mill manager knitting mill, $8,000-$10,000 year; assistant mill manager worsted and woolen yarns and cloth $8,000-$12,000; woolen cloth mill superintendents; night superintendent rayon dyeing and finishing plant; superintendent new synthetic yarn fabric mill (South); superintendent cloth sponging and shrinking plant; technical advisor for rayon and nylon yarns, traveling position; superintendent rubber covering plant; cotton mill superintendent, far Southern states; worsted designer for Canada; textile school or college graduate for scheduling and production work; assistant plant manager synthetic fabric mill. Superintendent large New England cotton mill, carded and combed fabrics; assistant superintendents worsted and woolen cloth mills.

OVERSEERS FOR FOLLOWING DEPTS: cotton cloth room (South); cotton weaving broad looms, New England mill, $100 week or more; woolen dressing (New England) $80; woolen and worsted finishing for New England, North Atlantic states and Mid West, $5,000-$10,000; sanforizing, New England mill; sewing room foreman, Mid West, knitted fabrics; woolen carding, $100-$125; cotton carding, $100; cotton spinning, $100; inspecting, receiving and shipping; boil off department; woolen weaving, dressing and spooling combined; rayon acetate dyeing and finishing, salaries $5,000 to $10,000; woolen and worsted dyeing, $5,000 to $10,000; sewing room foreman, knit goods, Southern plant $400 month; second hand cotton rayon slashing $300-$350 month.

PLANT ENGINEERS and Master mechanics; industrial engineers and time study men, salaries $3,000-$7,500; chemists and chemical engineers and laboratory men, salaries up to $10,000.

SALESMEN for textile machinery, chemicals, dyestuffs, soaps, etc.; thread salesman familiar with New England shoe trade; chemical salesman for Southern states.

Fixers for Crompton & Knowles and Draper cotton, silk, woolen and worsted looms; fixers Scott & Williams machines; woolen spinning frame fixer; fixer Johnson & Bassett mules; worsted dresser tender; second hands and fixers for all departments. Second Hand for rayon weaving. Draper looms, $80; second hand for cotton carding and combing. Erector for foreign country to set up cotton looms, winders and warpers, $400-$500 month, traveling expenses paid, also maintenance while on job.

We invite correspondence (confidential) with executives seeking new positions and with employers seeking new personnel.

CHARLES P. RAYMOND SERVICE
Incorporated
Over Fifty Years in Business
294 Washington St., Boston 8, Mass.
Telephones: Liberty 2-6547—2-6548

TEXTILE TECHNICIAN

•

Familiar with Spinning, Weaving, and Finishing. Capable of assuming plant responsibilities in modern worsted mill. Salary adequate.

•

Contact Mr. DOYLE
9019-24th Road
Jackson Heights, L. I., N. Y.

SEARCHLIGHT SECTION

(Continued from page 263)

SELLING OPPORTUNITIES OFFERED

SPECIALTY SALESMEN wanted for large repeat order item on all looms—Pilot Instrument Co., Boonton, N. J.

SALESMEN WANTED with textile following to sell paper and board specialties as side line on commission. SW 7364, Textile World.

WANTED: SALES organization that would like to take on a small mill of twelve automatic worsted looms to start off with on a straight commission basis or to work out some plan to weave on commission, if preferable. RW 7338, Textile World.

REPRESENTATION IN textile field desired by one of the largest and best equipped Pittsburgh fabricating plants, to sell the stainless and alloy requirements of the textile industry. Excellent opportunity for extraordinary income made even better by new steel basing point ruling. Write giving details of sales experience, line you now carry and present territory. The Converto Company, Box 4037, Pittsburgh 1, Pa.

POSITIONS WANTED

TRICOT FOREMAN Mechanic, wishes to change. All types high speed machines. Good pattern man. PW 7351, Textile World.

SUPT. OR Overseer, 25 yrs. experience in rayon, cotton and nylon knitted fabrics. Capable designing patterns, A-1 mechanical background. Quality and production control. PW 7361, Textile World.

TEXTILE TECHNOLOGIST with twenty-four years research experience, the last thirteen years as director of research, development, and quality control, desires technical or managerial position of responsibility. PW 7279, Textile World.

QUALITY CONTROL rayon fabric mill. Textile graduate. Well experienced with mill dyeing and marketing, filament and spun fabrics. PW 7435, Textile World.

JAQUARD HARNESS Builder with considerable experience seeks steady job preferably with mill. PW 7321, Textile World.

TEXTILE RESEARCH Chemist, 9 years director; experienced research, development, quality control and control laboratory desires responsible position in laboratory or production. PW 7437, Textile World.

BUSINESS OPPORTUNITY

Wanted: Dyehouse capable of piece dyeing and finishing of Cotton Knit goods (tubular). Production required 40000 to 50000 lbs. per week. Finishing section must be equipped for stripes. Preferably situated in Easter, Pa. BO 7250, Textile World.

AVAILABLE

WEAVING SUPERVISOR—DESIGNER

Textile School graduate in Czechoslovakia, age 32, single, linguist (seven) 10 years practical experience in weaving of cotton, woolen and worsted. Possessing general knowledge, experience and training including all departments from fleece to piece. Well versed in fabrics constructions, styling, analysis dobby, good on color. Full experience in production and quality control with all details of weaving and slashing operations. Efficient organiser, coordinator. Working with European and American Machinery (Draper-XD-X1-XL and C & K). Ability to arranges plant layout, maintenance, handling people. Presently employed in a supervisory position (over 800 looms) closed together with the Superintendent, by an internationally known Company in South America, seeking wider opportunity. Available January 1949 in the States. Able to furnish experience and character references. Preferring California area, but would consider other location. Full information on request. Firms interested please state contract terms to

P. W. 6972 Textile World
330 West 42nd Street, New York 18, N. Y.

MILL MAN

Experienced Knitter Mechanic on Tompkins Spring Needle Machines

for fine gage underwear cloth to heavy overcoating double fleece. Can also figure and create patterns. Best References.

PW 7340 Textile World
330 W. 42nd St., New York 18, N. Y.

AVAILABLE

Textile Executive or Representative

Resident in Canada, twenty-five years experience in cotton and rayon cloth manufacturing. Excellent references and connections in textile trade in Canada. Will represent U. S. yarn, cloth, or machinery manufacturers in this country or will move to U. S. if necessary.

P.W. 7286 Textile World
330 West 42nd St., New York 18, N. Y.

CAN A

SUCCESSFUL EXECUTIVE

BECOME A

SUCCESSFUL SALESMAN?

I have an Engineering Degree from Lowell Textile Institute and have had over 20 years managerial experience on cotton and synthetic Dress Goods Fabrics. I have been Supt., Plant Mgr., Prod. Mgr. and Prod. Control Mgr. and my activities have covered mfg. from throwing thru finishing; converting, yarn buying, purchasing fabric development, liaison between plant and main office. I have worked both in the plant and in the New York office. For the past five years I have done Prod. Control work in ladies woven rayon underwear. I would like to sell yarns, sizing materials, mill supplies, machinery; or anything connected with textile manufacturing.

References and resume furnished on request. I am ready to go to work at once.

JOSEPH A. WEBSTER
R. R. #2 Raymond, N. H.

WANTED

Large engineering firm wishes to acquire several complete textile plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.

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Located on Pawcatuck River, Rhode Island. Abundant soft process-water. 300 HP Steam Boilers. Sprinklers, Light, Heat. Ideal for Wool Scouring, Weaving, Dyeing; Cotton Finishing; and, Plastic plant. 50,000 sq. ft.

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Think
"SEARCHLIGHT"
First

WANTED

(Additional Wanted ads on page 275)

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Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

WOOLEN YARNS WANTED

All wool, in any quantity or color

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Dyes—Colors—Pigments
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By-Products—Wastes—Equipment

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ELASTIC COVERED THREAD

natural, approximately 1000 yards to the pound, minimum stretch 3 to one.

W-7400, Textile World
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Textile Engineering Consultant

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New SEARCHLIGHT Advertisements

received by January 17th will appear in the February issue, subject to space limitations.

Departmental Staff
TEXTILE WORLD
330 W. 42nd St., New York

Just as Amoskeag built Manchester, so ◂MLC▸ has built, over the years, a solid reputation for CERTIFIED VALUE in dependable textile machinery and equipment. Our reputation has grown, our customers have multiplied, because we give you, the buyer, the best value for your money.

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No. 8 of a Series

1—18' Rusden Ager, 52" max. cloth width, with hot water heater, motor drive
1—72" C & M 2-cylinder Brushing machine
1—39" Textile 5 Roll Calender
1—41½" Knit goods calender, stainless steel rolls with motor Reeves drive
1—50" 3-roll Textile Hydraulic Calender, with pump and accumulator, motor driven
1—80" Butterworth 6 Bowl Calender, 3 Cotton, 3 Brass Rolls
1—60" V.V.I 3-cyl. Silk Calender
12—40" Lowell cards, 27" Doffers, 12" Coilers
5—C&M Flock Cutters
3—48" D&F Rub Condensers, Double Bank, Double Apron with Spool Racks

◂MLC▸ Certified

1—54" x 60" D&F 2-cylinder Iron shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
1—60" Windle 3C Doubler, motor drive
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set of 31-40" face Butterworth Dry Cans
1—Set of 21-59" face Vertical Copper Dry Cans with motor, Reeves drive
1—06" P&S Loop Dryer
2—20 delv. Lowell & Saco Petee Drawing Frames 12" coilers
2—48" V. VL Stainless Steel Dye Jigs Motor driven
3—52" Werner S/S lined Die Jiggs
1—Raw Stock dyeing equipment with 4-1000# Motor Dyeing Machines, Blowers, Feeders, Dryers, etc.

◂MLC▸ Certified

1—Set 8 Textile Vertical 48"x23" Copper Dry Cans
1—36" P&S Loop Dryer width 8'
1—36" C&M Duster
1—7' D&F Iron Cone Duster with Feeder
1—18" Copper Basket Extractor
1—26" Tolhurst Extractor, belt driven
1—32" Tolhurst Copper Basket Extractor
1—51" Broadbent Motor Driven Extractor
3—60" Tolhurst Copper Basket Extractors

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3—16", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
100—40" Draper Model K 20 Har Dobby Looms
90—45½" reed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven

PRINTING EQUIPMENT

2—NEW 60" R. B. F. 6 Color Printing machines suitable for large pattern work
2—NEW 50" R. B. F. 12 Color Printing machines
1—Used 64" R. B. F. 8 Color Printing machine
1—Used 54" Werner Single Color Printing machine

58—42" r.s. Draper Model X Looms, with 39" sands rolls, Brown 4-harness tops, motor driven
1—48" C&K 4 x 4 box Loom, 25 harness, belt driven, friction clutch
21—54½" C&K Box 20 & 23 Harness Dobby Looms
2—74" Heavy Duck Looms, roller top
14—82" C&K 2 x 1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2 x 2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4x4 Box Looms, 25 harness, belt driven
20—C&K 22' Ribbon Looms with intermediate gem heads, belt driven

PRICED RIGHT

5600 Spindle Cotton Mill Balance on #40's Combed Yarn

75—New Leland & Westinghouse ⅓ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper
1—72" P&W 20-roll Double Acting Napper
3—80" D&F 20 roll single and double Acting Nappers
1—76" 3 Roll Mangle

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

- 3—Six to Fourteen Set Woolen Yarn Mills
- A Wollen Piece Goods Finishing Plant
- 3—Worsted Units
- 6—Cotton Mills, 3,000-100,000 Spindles 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment

400 Needle Hosiery Mill

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3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—76" King & Gerber Tubing Machine with Veeder-Root counter
2—240 SP.J.&B. 1⅞ Ga. Mules
1—392 Spindle Smith 2" Gauge Mule
2—240 Spindle J & B 2" Gauge Mules

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1—30 x 30" Mezerra Wool Opener
1—48" D&F 2-Cyl. Wool Opener with Feeder
4—45" 3 Roll Padders
1—45" 2 Roll Padders
1—40" H&B Single Process Picker with Eveners, Kirschner Beater, Ball Bearing Beaters with Condenser
9—10" Kitson Breaker Pickers, Finisher Pickers and Single Process Pickers, motorized
1—48" C.D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—86" Voelker Press Motor Dr.
6—52", 65½, 68, Voelker and Gessner Single and Double Bed Rotary Cloth Presses
4—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Pin Type Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
3—60" P&W Single Blade Woolen Shears
1—50" Hermas Shear with C&M Stitcher

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1—60" Parks & Wilson single Blade Plush Shear
11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
2—Cameron Model 26 Slitters, motor driven
1—42" Firsching 20-knife Slitting Machine
2—Lowell 2 cylinder Sinshers
1—40' Textile Clip Tenter, 60" opening with Housing
1—90" W & J S/S Clip Tenter, 102" opening with Housing
1—40' Kenyon Pin Tenter, 42" opening
7—70' Kenyon Pin Tenter, 46" opening

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1—60" C&M Single Brush type Tiger
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96 H&B 4½" Ring Tape Driven Twisters
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1—90 Sp. Foster Model 30 Cone Winder

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2—Economy & Logemann 250# & 100# Balers
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4—16' Narrow Fabric Ribbon Looms.
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90'—72" Butterworth Tenter with P & S Housing, 30 S.S. B.B. Dry Cans, 3-roll Pneumatic Padder, 6—S.S. 66" Dye Jiggs.

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6—C & K 90" Looms, with all auxiliary equipment. Now in Operation.

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2—Hardwood 60" Garnett Feeds
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1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (Box)
1—C. & M. 48" Fearnaught Mixing Picker
5—Schofield Hard Waste Pickers 18"x30"
1—Schofield 42" Carding Rag Picker
1—C. & M. 48" Burr Picker with Feed
1—S. F. 36" Lumper, ball bearing
1—Kitson 36" S-L Bale Breaker
1—60" Tape Condenser, double bank
1—Taylor-Wadsworth Backwasher and Dryer

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UNIVERSAL #50 & #90 WINDERS RE-BUILT TO ORDER
3—Universal #45 Winder Heads
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75,000—8" automatic Loom Bobbins

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3—Tolhurst Mtr. Dr. Extractors 72"-96"
1—Butterworth Rope Squeezer
1—C. & M. 170" Rolling Teasel Gig
1—Woonsocket 90", 24 roll D. A. Napper
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 66" Heavy Duty Press
1—P. & W. 66" 4 cyl. Brush & Sander
1—K. & B. 72" Full Decator
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2—Sturtevant No. 2 Pumps
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Includes 4 Sets Drawing, Ring Roving, approx. 4,200 Ring and 4,200 Cap spinning spdls. 1,200 spdls Ring Twisting, Foster and Abbott winding. Reeling. Complete auxiliary equipment including humidification. Can be operated wherein or moved.
Will sell separately from above 1—set drawing and approx. 2,400 cap spg. spdls only.
Location: New England. Available for Inspection. For full details contact:
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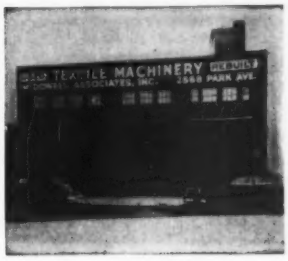

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3 BATCHERS, 48"—50"—60"
1 STEAM BRUSH, 2-cyl., 60"
1 CALENDER, friction, 3-roll, 43½"
1 CALENDER, ball bearing, 3-roll, 50"
1 CALENDER, 3-roll, 100"
2 CALENDERS, embossing, 2-roll, 54"—70"
1 SEMI-DECATUR, 72" x 24" dia. cyl.
1 HACKNEY 60" DOUBLER & FOLDER
2 DOUBLERS, 60"—72"
1 WET DRESSER (Sizing Machine)
1 CAN DRYER, vertical, 16 copper cans, 60"
1 CAN DRYER, horizontal, 17 stainless steel cans, 60"
1 LOOP DRYER, revolving stick, 2 string
1 LOOP DRYER, non-revolving stick, 2 string
1 PIN DRYER, 68"
1 PIN DRYER, 84"
1 SKEIN DRYER, 2 truck
1 DYE KETTLE, stainless steel, 6'
1 DRYER, raw stock, single pass
2 SKEIN DYEING UNITS, 28 stick—56 stick
4 EXTRACTORS, 32"—48"—60"
1 EXTRACTOR, vacuum, 78"
3 FOLDERS, 40"—48"—60"
1 FULLING MILL, double compartment
3 INSPECTING & WINDING UNITS, 44"—60"—100"
1 MEASURING MACHINE, 42"
3 NAPPERS, S.A., 14-roll, 72"—80"—90"
1 NAPPER, S.A., 20-roll, 90"
2 NAPPERS, D.A., 24-roll, 80"—88"
1 NAPPER, D.A., 36-roll, 80"
1 PALMER, 64" x 60", motorized
1 PALMER-TENTER-QUETCH UNIT, 60" width, 30' frame
2 ROTARY STEAM PRESSES, 66½"—68"
4 RAILWAY SEWING MACHINES, 40"—66"
5 SHEARS, single-double blade, 45"—68"
1 SHEAR, 66", high speed
1 SHEAR, 4 blade, 60"
1 SQUEEZE SET, 2-roll, 48"
1 SQUEEZE SET, 3-roll, 120"
1 SCOURING UNIT, 3-bowl, 48", with Dryer
1 TENTER FRAME, 90' x 50"
1 TENTER FRAME, 50' x 55"
4 CLOTH WINDERS, 42"—50"

CARDING & SPINNING

NEW 60" CARD CLOTHING TENSION MACHINE
1 IRON WOOL CARD, 3-cyl., 60 x 48 Tape Condenser
1 IRON WOOL CARD, 4-cyl., 48 x 60 Tape Condenser
1 IRON WOOL CARD, 3-cyl., 48 x 48 Tape Condenser
10 WORSTED CARDS, 2-cyl., 60 x 50
3 TAPE CONDENSERS, 48"
2 #25 DOUBLERS, 60 spin. each
1 #57 DOUBLER, late model, 100 spin.
5 GILL BOXES, 2 spin., Intersecting
1 new TRAVERSE GRINDER, 60"
8 G.P. MULES, 3" gauge, 320 spin. each
8 L.P. MULES, 2½" gauge, 360 spin. each
2 MULES, 1¾" gauge, 480 spin. each
2 WOOL OPENERS, 48", double cylinder
1 MIXING PICKER, 48", ball bearing, 6-bar, motorized
1 MIXING PICKER, Fearnaught, 48 x 48
5 Model A WOOL SPINNING FRAMES, 3" ring, 4½" gauge, 192 spin. each
2 Model E WOOL SPINNING FRAMES, 120 spin. each, large package
3 TWISTERS, 4½" gauge, 156 spin. each
2 TWISTERS, 5½" gauge, 100 spin. each
2 WARPERS, 107", high speed, pinless type
7 WASTE CARDS, 48", 27" doffers, 12" coilers
51 COTTON CARDS, 45"
14 D-2 COMPRESSORS, 12" coilers
16 DRAWING FRAMES, 4 deliveries, 12" coilers
12 DRAWING FRAMES, 6 deliveries, 12" coilers
8 INTERMEDIATES, 108 spin. each, 9 x 4½
2 Single Process PICKERS, 40"
4 ROVING FRAMES, 144 spin. each, 8 x 4
4 SLUBBERS, 100 spin. each, J-1 LD, 9 x 4½
4 SPINNING FRAMES, 252 spin. each, 3½" gauge
19 SPINNING FRAMES, 264 spin. each, 3" gauge
38 SPINNING FRAMES, 256 spin. each, 2¾" gauge
1 WARPER, high speed, 101", 1040 end DX creel
1 WARPER, high speed, 54", magazine creel
1 WINDER #30, 100 spin., cones and tubes
2 WINDERS, Abbott, 80 spin. each

WEAVING

189 DRAPER E, 40½" R.S.
66 DRAPER X, 43" R.S.
20 DRAPER E, 45" R.S.
42 DRAPER XP, 66½" R.S.
14 DRAPER D, 70" R.S.
24 DRAPER D, 2 x 1, 73½" R.S.
42 DRAPER D, 81" R.S.
60 TAPE LOOMS, 42—62 spaces
20 VELVET LOOMS, 42" R.S., double shuttle
20 VELVET LOOMS, 56" R.S., double shuttle
18 C&K, 45" 4 x 1, auto., 20 har., motorized
18 C&K, 45", 2 x 1, auto., 12 har., motorized
300 C&K, S-5, 54", 2 x 1, auto., motorized
21 C&K, 59½", 4 x 1, auto., motorized
48 C&K, 68", 4 x 1, auto., motorized
12 C&K, 72", 4 x 4, 25 har., motorized
12 C&K, 82", 4 x 4, 25 har., belt
16 C&K, 82", 4 x 4, 25 har., motorized
4 C&K, 84", 4 x 1, auto., 25 har., motorized
16 C&K, 92", 4 x 4, 30 har., motorized
8 C&K, 100", 4 x 4, 25 har., belt

A COTTON UNIT, APPROXIMATELY 5800 SPINDLES, OPENING THROUGH SPINNING

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1—P. & W. Semi-Decator, 50"
1—V. V. Calender, 3 rolls, 42"
1—Perkins Hydraulic Calender, 3 rolls, 50"
1—Butterworth Friction Calender, 5 rolls, 60"
1—V. V. Extractor, 60"
1—Set 8 copper Dry Cans, 72"
1—P. & W. Napper, 82"
1—National Loop Dryer, 84"
6—Morrison Dye Jiggs, 50"
1—Werner Palmer Unit, 48"
1—V. V. 3 roll Calender, 50"
1—Werner Pneumatic Padder, 60"
1—Scutcher, 40"
1—W. & J. Tenter Frame, 20', 50"
2—V. V. Dye Jiggs, 60"
1—P. & S. Raw Stock Dryer, 90"
1—V. V. Dry Box
2—Smith-Drum, 20 arms, Skein Dyer
1—Smith-Drum Skein Dyer, 60 arms
1—Butterworth Hydraulic Baling Press

CLOTH ROOM

1—Double 6 Roll, 54", motor
1—Cloth Doubler, 60"
1—Cloth Doubler, 90"
1—V. V. Tuber, 50"

COMPLETE MILLS

Cotton Spinning & Weaving—20,000 sp., 600 looms
Cotton Spinning & Weaving—11,000 sp., 250 looms
Cotton Spinning, 8,000 sp.
Cotton Spinning, 3,500 sp.
Worsted Spinning, 3,500 sp.
Woolen Spinning, 1,600 sp.
Worsted Weaving, 100 looms
Worsted Weaving, 30 looms

WEAVING

68—Draper X, 43"
100—C&K S5, 56"
21—C&K C4, 60", 4x1
42—Draper Rayon, 80"
24—Draper K, 43", double wide
48—C&K C4, 68" Jacquard
18—C&K 4x4, 82"
18—C&K 4x1, 84"
24—C&K 4x1, 48"
60—Draper E, 47½"
5—Draper Spoolers, 4½ ga., 120 sp.
1—B-C Auto. Spooler, 140 sp.

TEXTILE PRINT MACHINES
RICE, BARTON AND FALES
6-8-12 COLORS

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14—Whitin D-2 Combers, 12"
12—Whitin Drawing, 6 del.
24—Whitin Spinning, 1-7/16" ri., 288 sp.
2—Whitin Twisters, 4" ri., 104 sp.
8—Woonsocket 12x6 Slubbers, 68 sp.
12—Woonsocket 7x3½ Speeders, 176 sp.
3—Whitin Drawing, 6 del. ea., Model F
5—Whitin Twisters, 2" ri., 240 sp.
14—Atwood Twisters, 2¾" ri., 100 sp.
14—Atwood Twisters, 2¾" ri., 80 sp.

WARPING

6—Cocker Slow Speed Warpers
2—B-C H.S. Warpers
1—Cocker Ball Warper
1—B-C Tie In, 72"
2—Cohoes Slashers, 2 drums
1—Johnson Slasher, 3 drums
1—Saco-Lowell Slasher, 5 drums

WINDING

50—Universal #50 Cone Winders
17—Foster Cone Winders, 6 sp.
9—Sipp Winders, 140 sp.
12—Universal #90 Winders

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EQUIPMENT COMPANY
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We Are Offering for Immediate Delivery

1—3 Roll 45" Motor Driven Quetch.
1—40' 60" Winsor & Jerauld Tenter Frame, complete.
1—V. V. 68" Palmer unit, complete with Quetch and Tenter Frame.
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2—56" Morrison enclosed gear copper lined Dye Jiggs.
2—54" General enclosed gear S. S. line Dye Jiggs.
1—Set of 9—20" x 60" Heavy Steel Dry Cans
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1—Set of 3 copper cans, 36" diameter by 60" face.
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1—38" motor driven self balancing Hercules Extractor.
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2—60" motor driven beamers.
2—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
60-80 gallon stainless steel steam jacketed Kettles.
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1—Reeves 7½ H. P. Vari-drive.
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20 Universal #50, Gear Gainer, motorized, 220 volts, 3 phase, anti-wear Tensions, 3-30 Tapir Cones, in excellent operating condition.

8 SAME AS ABOVE EXCEPT BELT GAINER

6 FOSTER MODEL 75-A For COTTON; Motorized, complete with Waxing Attachments.

GOOD USED MOTORS

WESTERN ELECTRIC

A.C. TYPE KT SERIES 100, 3-PHASE, 220 VOLTS, 60 CYCLES.

225	2 H.P.	1200 R. P. M.
90	3 H.P.	900 R. P. M.
25	5 H.P.	1800 R. P. M.

ALSO MISCELLANEOUS MOTORS IN VARIOUS SPEEDS AND PHASES.

RAYON OR SILK TWISTERS

ATWOOD — DOUBLE DECK

C-TYPE—4¼" Spindle Spacing

Individually Motorized, New Bobbin Equip., Ex. Cond.

4—200 spindles

4—184 spindles

6 FLETCHER

MOTORIZED 1934 MODEL

6" Gauge Single Deck Twisters

3—80 spindle machines and 3—70 spindle with 6½" centers, 3½" wide cork covered take-up pulleys, 4½" diam. motor pulleys, 3 HP General Electric motors with starting switches. 220 volts, 60 cycles. Machines in excellent condition. Excellent Bobbin Equipment Available for These Machines at Low Cost.

6 ATWOOD 5-B SPINNERS

All individually Motorized 2 HP, 3 Phase 220 Volts, 60 cycle motors. Bobbin Equipment with all machines, 104 each spindle, 4" spacing, 3" rings, double 2" feed rolls.

9—FLETCHER

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All individually Motorized 2 HP, 3 Phase 220 440 volts, 60 cycles, 84 spindles, 5¼" spacing, 3½" Whitin rings, double 2" feed rolls. Excellent condition. Bobbin Equipment with machines.

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10—#90

UNIVERSAL WINDERS

LATE TYPE—EXCELLENT CONDITION

INDIVIDUALLY MOTORIZED WITH ¾ H.P. MOTOR.

#40,000 SERIAL NUMBER.

BUNCH BUILDERS, 20 SPINDLE EACH MACHINE.

2 COCKER — 60" Wide 18" Diameter Drums

11 DRUM

SLASHERS

Almost NEW

Used Only 16 Months

Stainless steel drums, 5 beam take ups double Quetch, Reliance single motor variable speed drive 15 H.P., 1150 R.P.M. Taylor instruments and piping. Special reeds 1½" wide, Johnson joints bearings and flexible tubing.

LOOMS — LOOMS — LOOMS — LOOMS

18 C & K—4 x 4—68"

Dobby head type

- ★ LOOMS, Excellent condition.
- ★ INDIVIDUAL MOTORS, 3 phase, 220 volts.
- ★ 3 SHIFT PICK COUNTERS
- ★ HEAVY DUTY TYPE ROLLER BEARING

Looms must be seen for full appreciation of value!

11 C & K—2 x 1—56"

20 Dobby

- ★ OPERATING CONDITION, Heavy Duty
- ★ INDIVIDUAL MOTORS, 3 phase, 220 volts.
- ★ CENTER STOPS
- ★ VEEDER ROOT—pick counters

Your Inspection Invited . . . .

4 C & K—4 x 4—68"

Gems Heads

- ★ INDIVIDUAL MOTORS, 3 phase, 220 volts.
- ★ CENTER STOP

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3000 Brugger Adjustable Swifts for Rayon or Silk
3—MOTORIZED EXTRACTORS, 36", 48", 60"
50,000—3 Ring Automatic Bobbins, 7⅜"
30,000—7" Paper Caps with Metal Lip
25,000—1 Lb. St. Steel Head 4½" x 4⅜" Trav. Stenning Shafts
15,000—9" x 10" Fibre Head Warp Spools

MOSSBERG All Steel Beams

1,000—12" head, 10⅛" trav.
500—12" head, 18⅛" trav.
2,000— 9" head, 2" trav.
500—9" head, 3" trav.
500—8" head, 4" trav.
500—8" head, 5" trav.
500—8" head, 6" trav.

1,000 FLETCHER AUTOMATIC LET-OFFS 4 pin and 6 pin

TRICOT MACHINERY

2 Whitin 1945 168" Machines
1 Reiner 1947 Direct Warper with 300 Beams
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NEW Worsted and Woolen Cards, Combers, Spinning Frames, Mules, on the French System. Delivery almost immediate.

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1—Set 36 Dry Cans, Copper, 4 vertical stacks, 112" wide, 23" diameter.
12—S.S. Dye Boxes, 4'12" wide.
1—400 lb. Iron Franklin Pressure Dyeing Machine.
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5—PROCTOR & SCHWARTZ Loop Dryers, 20-40' long M.D.
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1—BUTTERWORTH SCHREINER Calender, 60 tons, M.D.
2—R.B. & F. 6 color print machines, 60" NEW.
2—Semi-Decators.
2—WOONSOCKET Nappers, D. A. 82" M.D. 36 rolls.
2—C. & M. Shearing Machines, 60" Wide.
2—Philadelphia Skein Dryers.
3—Cotton Slashers.
1—NEW WRING Master Squeezer — Rodney Hunt.
1—Quetch 60" 2-roll motor driven.

WEAVING & SPINNING

12—C & K W-3 Looms, 82" wide.
12—C & K W-3 92" Looms.
12—C & K W-3 100" Looms.
24—C & K 4 x 1, 82" Looms.
24—C & K 2 x 1, 72" Looms.
48—C & K 100 Draper Model D. 50".
72—Draper Model E 47½".
60—Draper Model E 45".
40—C & K 2 x 1, 52".
24—C & K 4 x 4, 100".
36—4 x 4, 82".
500—Draper Model E 40".
12—WHITIN Spinning Frames, Long Draft.
24—Woonsocket Cards 40", 12" coilers.
2—Barber Coleman Warp Tying-in Machines, Model J16, size 4J.
2—Foster Winders, 80 spindles, Model 12.
1—Sipp-Eastwood Yarn Warper and Creel 1624 working ends.
3—Barber Coleman Automatic Spoolers.
3—Collins Twisters.
25—FOSTER Winders.
3—WHITIN Twisters.
Miscellaneous Drawing, Finishing & Roving, Intermediates.

WORSTED & WOOLEN EQUIPMENT

2—WHITIN Cards 60", 3 cylinder, tape condenser.
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3—D & F Worsted Cards 54" wide, 2 cylinder.
2—D & F 48" x 80" 3 cylinder cards.
All above cards have iron cylinders.
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1—SARGENT 5 bowl Scouring Train, 46" S.S. Rakes with Dryer (1945).

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5,000 to 30,000 spindles; conventional, long draft, combed and carded with and without weaving.

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1—2000 Spindle Worsted.
1—2-Set Bradford Worsted Spinning.
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Coating Machine

72" width Cloth Roll—Chain Drive

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All Stainless Steel—60" Basket Made by American Tool & Machine Co. Includes special Louis Allis 15 HP. Motor on main drive and auxiliarry 1½ HP motor for treatment at low speed of 30 RPM with cycle control for reversing at low speed.

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1—74" LOOP DRYER—2 FANS—LEWELLEN DRIVE
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Note: Motor fitted with magnetic brake for quick stopping when tacking thread breaks.

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Balance of parts for vacuum pump unit

1 220 volt, 60 cycle, 3 phase magnetic switch for 30 H. P. motor
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One homemade scray for above—all metal.

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12—Crompton & Knowles Quill Change Automatic Looms, 81½" between layswords, now running as a 1x1 but is equipped with a 4 cell shuttle box and laysword to operate as a 4x1 loom. Individually motor driven. Has gears on both ends of the crankshaft eliminating the twisting strain on the crankshaft. Has extended bottom shaft to operate Jacquard Machine and 2 shift pick counters.

COMPLETELY REBUILT LOOMS
C & K 2 x 1, 54" Reedspace
C & K 4 x 1, 54" Reedspace with Multiplier.
Roller Bearing, Shock Absorber, heavy bar, individually motor driven, 20 harness dobby.

5—Crompton & Knowles Heavy wool type 2x2 looms, 66" between layswords with 1½" x 2¼" Shuttle Boxes. Individually motor driven and extended bottom shaft to operate Jacquard Machine.

8—Hunt Machine Works, Draper (60" finished goods) 65½" Reedspace Automatic Looms like new, with all new equipment motorized 1 HP G.E. Motor, complete with Feeler, cutter and #3 Battery, including Spreaders new 24" beams and electric warp stop motions

12—Model E Automatic Draper Looms, 53½" Reedspace, motorized, completely reconditioned with Stafford Cutter and Midget Feeler

8—Model K Automatic Draper Looms, 47½" Reedspace, 20 hook dobby, motorized, completely reconditioned with feeler and cutter

10—Model E Automatic Drapers, 65½" Reedspace with lacey top for 5 shaft operation, completely reconditioned with feelers and cutters

30—Model E Automatic Draper 45½" Reedspace with lacey top for 5 shaft operation, motorized, electric stop motion, completely reconditioned with feelers and cutters

20—80½" Reedspace Draper Automatic Quill Change, Double drive looms, individually motor driven, with electric stop motion, some equipped with 600 hook double lift Jacquard machines

2—Atwood 5Bs Doubler Twisters, motorized, 100 spindles, 6 Ends.

20—#90 Universal Quillers and Coppers with and without bunch builders, completely rebuilt

Harness Shafts, all sizes

10 M—Automatic Quills 8", 8¾"

Eastwood and Sipp Warpers 84", 72"

1—New Blake 60" Measuring Machine, variable speed

1—Complete Dictaphone consisting of 1 Recorder, 1 Transcriber and 1 Record Cleaner

1—Victoray Photo Copy Machine with Automatic Timer

Lockers—All steel, 8½ ft. high, 12 inches wide, 15" deep.

Double Lockers, 2 openings to each locker, each opening 3 ft. high. We have 72 of these double lockers for sale

½ H.P. Used Textile Motors, 220 Volt, 3 Phase, 60 Cycle.

Crompton & Knowles and Draper parts, *new and used*

New Stafford Cutters **New Draper Motor Drives**

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FROM A SINGLE ITEM TO A COMPLETE PLANT
NEW and USED TEXTILE MACHINERY

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AGER, Wood, Acid, New
AGER, Stainless Steel Acid
AGER, Tower, New & 2nd hand
BEAMER, 60" Van Vlaanderen
BEAMER, 60" with steaming Drum
BLOWER, New Squirrel cage type
BLOWERS, G.C. 8x8-3/8" 350 cu. ft. per min.
BOIL-OFF MACHINES, New, 3 & 5 drum
BUTTON BREAKER, V.V. spiral, 60"
BUTTON BREAKER, V.V. 50"-60"
CALENDER, Kasterinsky 36" for knit goods
DRY CANS, set of 8, 72"x23" dia. horizontal
DRY CANS, 7, Morrison 48" high pressure
DRYING, DRUM, 61" face x 24" dia.
DRYER, Loop 84", 10 fans, revolving poles
DYE BECKS, Stainless steel 4' to 20', New
DYE BECK, 2' Sample, stainless steel lined
DYEING MACHINES, Smith-Drum Paddle type
DYEING MACHINES, Smith-Drum Pocket type
DYEING MACHINE, Rochester, Rotary 30"x20", 3 pocket 20 lb. capacity
EMBOSSERS, 54" & 60"
EXTRACTOR, 26" American, Motor driven
EXTRACTOR, 48" Burkhardt, rubber basket
EXTRACTORS, Beam 50" & 60" S.S.
EXTRACTOR, K&G 48" rubber lined basket
FLAT FOLDERS, Elliott & Hall adjustable
INFRA RED Units complete with blowers
INSPECTION TABLES 42"
JIGGS, 90" Stainless Steel Lined
JIGGS, 50" St. St. & rubber lined
KNITTING MACHINES, Lamb 24"
MOTORS, ½ to 5 HP AC/DC 220 volt
PADDER, 90"
PALMER QUETCH UNIT, Butterworth, 54 & 60"
PRINT MACHINE, 10" sample & ribbon
PRINT MACHINES, 6 & 8 color, 60" Waldron
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3—Kitson 38" Hopper Feeders.

6—Saco-Lowell 40" Single Process Pickers, motor driven.

4—Saco-Lowell 40" Finisher Pickers, motor driven.

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100—40" Lowell R. F. Cards, 12" coilers.

16—Whitin Model D-2 Combers, 8 heads each, 12" coilers, 11¾" lap.

4—Whitin Ribbon Lap Machines, 11¾ lap.

4—Whitin Sliver Lap Machines, 9¾" lap.

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8—Deliveries Saco-Lowell Controlled Draft Drawing, 194" Model, 4 deliveries per head, 1⅜" bottom rolls, leather top rolls.

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12—Saco-Lowell 12x6 Slubbers, 60 spindles, 10¼" gauge.

2—Whitin 12x6 Slubbers, 76 spindles.

12—Saco-Pettee 12x6 Slubbers, 72 spindles, 10¼" gauge.

8—Saco-Pettee 9x4½ Intermediates, 104 spindles, 7½" gauge.

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35—Whitin Long Draft Spinning Frames, Tape Drive, 3½" gauge, 15—228 spindles, 1⅛" ring, 20—204 spindles, 2" ring.

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5—Whitin Spinning Frames, Tape Drive, 3" gauge, 2-1/16" ring, 336 spindles.

80—Whitin Spinning Frames, Band Drive, 2¾" gauge, 1⅛" ring, 240 spindles.

TWISTING

6—Whitin Tape Drive Twisters, 3¼" gauge, 2½" ring, 224 spindles.

11—Fales & Jenks Tape Drive Twisters, 4½" gauge, 3½" ring, 180 spindles, double bottom rolls, motor driven.

15—Collins Tape Drive Twisters, 4½" gauge, 3½" ring, 152 spindles, motor driven.

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2—Foster #103 Winders, for wooden cones, 100 spindles, motor driven.

2—Foster #102 Winders, 2—wooden cones, 2—paper cones, 100 spindles, motor driven.

20—Universal #90 Winders, 20 spindles, bunch builders.

2—Entwistle High Speed Rayon Wrapers, with 800-end Magazine Type Creels.

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1—Lowell Slasher, 71" headway, 5' and 7' cylinders.

1—Saco-Lowell Slasher, 80" headway, 5' and 7' cylinders.

1—Saco-Lowell Slasher, 102" headway, 5' and 7' cylinders.

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100—Draper Model "K" 62" Looms, 67½" reed space.

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50—C & K 50" 4x1 box Automatic Looms, 58½" between swords, with 20-harness dobbies.

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1—Open Steel Kier, 2000 lb. capacity, overhead stainless steel hood.

1—60-arm Buhlman Skein Dyeing Machine, 7 sections each side, stainless steel tanks, motor driven.

1—6-box Chain Warp Dyeing Machine, motor driven.

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1—24-Can Butterworth Dryer, new stainless steel cans 23" dia. x 72" face, vertical frames, Johnson joints.

1—17-Can Butterworth Dryer, stainless steel cans, 23" dia. x 130" face, vertical frames, Johnson joints.

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1—New Stokes Universal Staple Cutter, Model 72, motor driven.

1—Economy all steel Baling Press, 60" x 30" x 108", motor driven.

1—Minnich all steel Baling Press, 54" x 27" x 72", motor driven.

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1—Saco-Lowell 3-section W-3 Waste Machine, motor driven.

10—Tillinghast Rotary Portable Sewing Machines, foot powered.

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8—Klauder-Weldon Raw Stock Dyeing Machines, 4000 lb. capacity.

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1—Butterworth Pin Tenter, opens from 33" to 80", 34 yards long, electric cloth guiders, motor driven.

1—85" John Heathcote & Sons 6-tier Tenter, 128 yard capacity, with Andrews & Goodrich insulated housing.

10—Davis & Furber 80" 36-roll Double-Acting Nappers, ball bearing, motor driven.

8—Franz Muller 80" 36-roll Double-Acting Nappers, ball bearing, motor driven.

1—Davis & Furber 84" 36-roll Double-Acting Napper, ball bearing, motor driven.

1—Woonsocket 96" 36-roll Double-Acting Napper, ball bearing.

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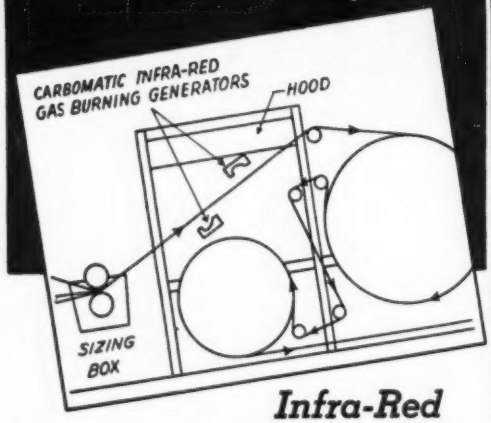

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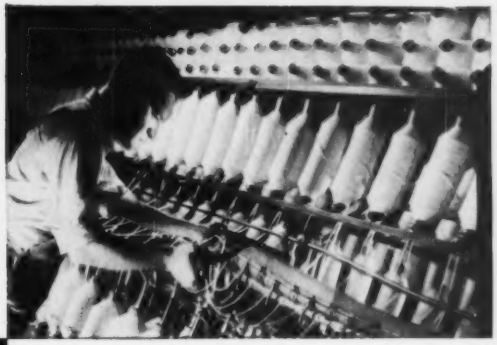

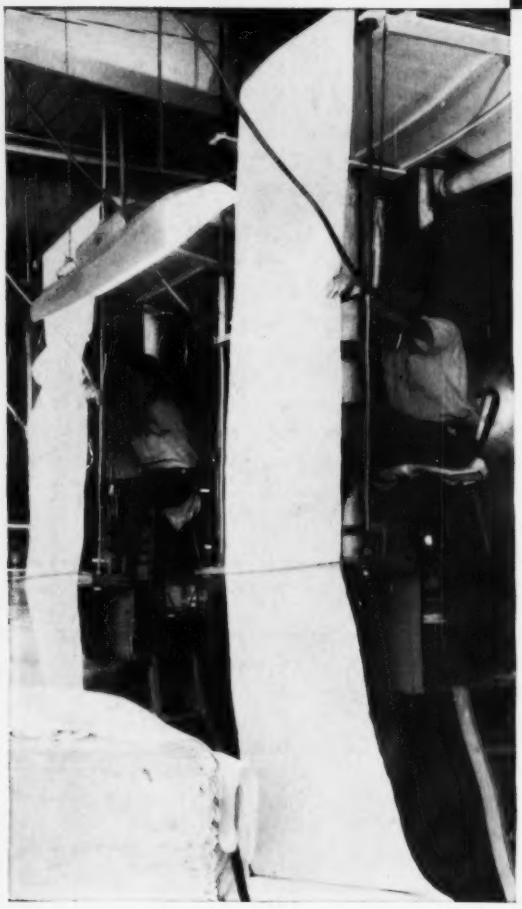

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